FOOD SAFETY ISSUES

HEARING

BEFORE THE

SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH, AND FOREIGN AGRICULTURE

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

JUNE 14, 1989

Serial No. 101-19

Printed for the use of the Committee on Agriculture

U.S. GOVERNMENT PRINTING OFFICE

25-305 WASHINGTON : 1990

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

H161-6.

25-305 0 - 90 - 1

COMMITTEE ON AGRICULTURE

E (KIKA) DE LA GARZA, Texas, *Chairman*

WALTER B. JONES, North Carolina
GEORGE E. BROWN, JR., California
CHARLES ROSE, North Carolina
GLENN ENGLISH, Oklahoma
LEON E. PANETTA, California
JERRY HUCKABY, Louisiana
DAN GLICKMAN, Kansas
TONY COELHO, California
CHARLES W. STENHOLM, Texas
HAROLD L. VOLKMER, Missouri
CHARLES HATCHER, Georgia
ROBIN TALLON, South Carolina
HARLEY O. STAGGERS, JR., West Virginia
JIM OLIN, Virginia
TIMOTHY J. PENNY, Minnesota
RICHARD H. STALLINGS, Idaho
DAVID R. NAGLE, Iowa
JIM JONTZ, Indiana
TIM JOHNSON, South Dakota
CLAUDE HARRIS, Alabama
BEN NIGHTHORSE CAMPBELL, Colorado
MIKE ESPY, Mississippi
BILL SARPALIUS, Texas
JILL L. LONG, Indiana
ROY DYSON, Maryland
H. MARTIN LANCASTER, North Carolina

EDWARD R. MADIGAN, Illinois,
Ranking Minority Member
E. THOMAS COLEMAN, Missouri
RON MARLENEE, Montana
LARRY J. HOPKINS, Kentucky
ARLAN STANGELAND, Minnesota
PAT ROBERTS, Kansas
BILL EMERSON, Missouri
SID MORRISON, Washington
STEVE GUNDERSON, Wisconsin
TOM LEWIS, Florida
ROBERT F. (BOB) SMITH, Oregon
LARRY COMBEST, Texas
BILL SCHUETTE, Michigan
FRED GRANDY, Iowa
WALLY HERGER, California
CLYDE C. HOLLOWAY, Louisiana
JAMES T. WALSH, New York
BILL GRANT, Florida

PROFESSIONAL STAFF

BERT R. PEÑA, *Staff Director*
DANIEL E. BRINZA, *Counsel*
CHARLES HILTY, *Minority Staff Director*
JAMES A. DAVIS, *Press Secretary*

SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH, AND FOREIGN AGRICULTURE

GEORGE E. BROWN, JR., California, *Chairman*

CHARLES ROSE, North Carolina
LEON E. PANETTA, California
CHARLES W. STENHOLM, Texas
DAN GLICKMAN, Kansas
CHARLES HATCHER, Georgia
JIM OLIN, Virginia
HAROLD L. VOLKMER, Missouri
JIM JONTZ, Indiana

PAT ROBERTS, Kansas
E. THOMAS COLEMAN, Missouri
SID MORRISON, Washington
FRED GRANDY, Iowa
JAMES T. WALSH, New York

CONTENTS

	Page
Brown, Hon. George E., Jr., a Representative in Congress from the State of California, opening statement	1
Morrison, Hon. Sid, a Representative in Congress from the State of Washington, opening statement	4
Olin, Hon. Jim, a Representative in Congress from the State of Virginia, opening statement	3
Roberts, Hon. Pat, a Representative in Congress from the State of Kansas, opening statement	2

WITNESSES

Moore, John A., Assistant Administrator, Pesticides and Toxic Substances, U.S. Environmental Protection Agency	7
Prepared statement	49
Parnell, Jack C., Deputy Secretary, U.S. Department of Agriculture	4
Prepared statement	40

FOOD SAFETY ISSUES

WEDNESDAY, JUNE 14, 1989

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DEPARTMENT OPERATIONS,
RESEARCH, AND FOREIGN AGRICULTURE,
COMMITTEE ON AGRICULTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 2:05 p.m., in room 1302, Longworth House Office Building, Hon. George E. Brown, Jr. (chairman of the subcommittee) presiding.

Present: Representatives Panetta, Rose, Stenholm, Olin, Volkmer, Jontz, Roberts, Morrison, Grandy, and Walsh.

Also present: Representative E (Kika) de la Garza, chairman of the committee.

Staff present: William E. O'Conner, Jr., assistant minority staff director; John E. Hogan, minority counsel; Alice Devine, minority associate counsel; Grace McGovern, clerk; William A. Stiles, Jr., James R. Lyons, and John J. Aguirre.

OPENING STATEMENT OF HON. GEORGE E. BROWN, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BROWN. The subcommittee will come to order.

We are holding today's hearing as part of a series of hearings which we will be conducting this year on various environmental topics. We are going to hold a hearing next Wednesday on the Department of Agriculture's water quality initiative and hope to follow that shortly with a more extensive review of the process of risk assessment. I should note that this activity is a continuation of our efforts from the last Congress, in which the subcommittee spent much of its time on environmental and public health issues.

Today we are going to take another look at the food safety issue, to explore in detail the programs and activities of the Environmental Protection Agency and the USDA in this area. Specifically, we are looking at the issue of pesticide residues on food, how they are regulated, and how farming practices adjust to regulatory and public concern about food safety, and what may be needed to keep public confidence in the safety of our agricultural food supply—to keep that public confidence at a high level.

I don't need to point out that these matters are of very high public interest and that there is legislation being considered in other committees of the Congress dealing with these issues, and if we are to fulfill our role in the Committee on Agriculture, we have a responsibility to proceed as expeditiously and as carefully as we can to make sure that we are on top of all of these kinds of issues.

Having said that, I will recognize our distinguished ranking minority member, Mr. Roberts, for any statement he may wish to make.

OPENING STATEMENT OF HON. PAT ROBERTS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. ROBERTS. I thank you, Mr. Chairman.

I want to welcome our two guests today, Dr. Jack Moore, from the EPA, and our new Deputy Secretary, Jack Parnell, from the Department of Agriculture. This may be the last time, Mr. Chairman, that we have the privilege in a partnership effort where——

Mr. BROWN. I wondered why he looked so happy today. [Laughter.]

Mr. ROBERTS. Smiling like a Cheshire cat, if I might. But at any rate, it in fact may be the last time that Dr. Moore does testify on behalf of the EPA before this subcommittee. And so, for Mr. Parnell, this will be his first. So the last shall lead the first.

I want to publicly thank you again, Dr. Moore, for all of your help and your assistance and your partnership effort as we have tried to go the speed limit over a highway filled with many potholes, and I think we have made some progress.

I think today's hearing will be a good experience on both counts. As you know, Mr. Chairman, earlier this year, in March, Dr. Moore testified before this subcommittee in regard to EPA's response to a report on food safety and the question of Alar and apples. We, apparently, did not do a very good job of satisfying the public's concerns at that time. Since that time a series of events have unfolded, if you will. Schools throughout the country banned apples from their lunch program, some even here in Fairfax, Virginia. That was rescinded in some areas. Our children now understand that we, as a society, will not really tolerate the excesses of Johnny Appleseed.

Yet we had a distinguished body of scientists, the National Research Council, tell the American public to eat more fruits and vegetables, at the same time—not less. Our society it seems to me, Mr. Chairman, and those in attendance, is rapidly losing the ability to deal objectively with the process that feeds us and a good part of the world. I have never seen an issue merit more attention by this subcommittee than food safety. This issue deserves our attention, but it seems to me we must conduct the debate in a rational manner. I am very frustrated by the disregard—frankly, I call it disregard—by some environmental groups and consumer advocacy groups have shown for the well-being and integrity of the American farmer.

My producers or any producer, for that matter, do not apply pesticides by happenstance. It is a detailed, highly planned part of the farmer's operation. From a farmer's prospective, the use of agrichemicals is a judicious exercise meant to improve the farmer's profit. But, as a national policy, the collective use of pesticides assures us of a high quality, diverse, and economical supply of food. That is what the green revolution was all about. That is why we can feed poor children in Africa. That is why agriculture has generated multibillions of dollars in scarce export revenues for this

entire country. That is why, in spite of one of the worse droughts we have ever had in the history of the Kansas wheat farmer, we will have a surplus.

But let me stress that our pesticide regulatory programs can be improved, must be improved, and we can reduce the risk associated with pesticides. That is our responsibility. I think we are up to it.

This Congress passed a substantial body of law last year to improve the statute that really governs the use of pesticides. Every year of my tenure, and I know every year almost at least of the chairman's tenure, on the Agriculture Committee, we have either discussed pesticide issues, held hearings or acted on legislation. It was the chairman and this member who went before the HUD and Independent Agency chairman and begged, borrowed, and I think finally achieved the kinds of funds that we needed to give Jack Moore the necessary funds to do the job. No, not up to the level of some of the critics, but at least to do a better job.

No person can legitimately claim we have shirked our responsibilities, but it is true that 435 Members of the House cannot respond with the same speed that the media reports on new developments, new issues, and concerns, and nor should we. I think we must not overlook those points and really try to precipitate a crisis of competence in the safety of our food safety to achieve any other personal goals or single goals; and so consequently, I am looking forward to this hearing.

Again, Jack, thank you very much. And I want to welcome the witness.

Mr. BROWN. Thank you very much, Mr. Roberts.

Mr. Olin.

OPENING STATEMENT OF HON. JIM OLIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VIRGINIA

Mr. OLIN. Mr. Chairman, thank you. I would just like to make a short comment. I would like to congratulate the chairman again and commend him for having this hearing and continuing the oversight, the work on food safety. There is probably nothing that is more important to the work of this subcommittee than to do a proper job of oversight in this area.

I think that the Federal Government does a good job in protecting the safety and health of farmers, and also the consumers, with regard to the use of the various chemicals that we deal with. I think our interest is to be sure that that good work continues, that the public has high confidence in that work, and that we have good, clear communications with regard to the results of the technical work that supports our basic food safety program.

And I think I agree with the gentleman from Kansas that in the case of Alar we did not have a very clear signal and there was some confusion on the part of the public as to whether we thought that that chemical was safe to use or not, and that is unfortunate that we get into that kind of confusing way of talking about a subject.

I think the public's confidence was not shaken exactly, but the public was a little confused as to what it was the Federal Govern-

ment was doing in their behalf, and we need to avoid that. I think Mr. Moore is quite sensitive to that subject and understands it.

So I am looking forward to what both of you gentlemen have to say. And, Mr. Parnell, it is a good chance to get acquainted and hear how some of us feel about the work that both you and EPA are doing in this respect.

Thank you, Mr. Chairman.

Mr. BROWN. Thank you, Mr. Olin. Mr. Morrison, do you have a statement?

OPENING STATEMENT OF HON. SID MORRISON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mr. MORRISON. Mr. Chairman, just a quick comment.

I have the distinction of representing about 5,000 apple growers producing over half the Nation's crop, so I have seen the unfortunate spin-off when, in fact, the mechanism is not perfectly in place to the satisfaction of consumers as well as producers. I can tell you that the pain isn't worth the modest opportunity that we have to continue to use materials that may be proven guilty in the marketplace, as opposed to in the scientific laboratory.

So I, too, will be very enthusiastic about today's hearing as a beginning step in a process that has to lead to better mechanisms, mechanisms that we all count on. I think everyone's heart is in the right place but we just don't have the procedure yet to get where we have to go, and I hope that our witnesses, both of whom I have the greatest respect for, today will in fact lead us down the path to get us where we need to go, Mr. Chairman. Thank you.

Mr. BROWN. Thank you, Mr. Morrison.

Mr. Stenholm or Mr. Jontz.

All right. We are going to start this morning with Jack Parnell, Deputy Secretary of the Department of Agriculture. And, if Mr. Roberts is correctly informed, this is his first appearance before this committee, and we welcome you here. This is the most onerous part of your job, Mr. Secretary, appearing before a congressional committee.

Let's have Mr. Moore come up also.

You may begin, Mr. Parnell, and, if you haven't found out already, the chairman will always tell you that your full statement will appear in the record as if you had delivered it, flawlessly; and he will hope that you will abbreviate it as necessary to cut down on the time. But that is your judgment to make. You may proceed.

STATEMENT OF JACK C. PARNELL, DEPUTY SECRETARY, U.S. DEPARTMENT OF AGRICULTURE

Mr. PARNELL. Thank you, Mr. Chairman. It is a pleasure to be here today. And certainly with reference to Mr. Moore, I have had the good experience and the pleasure for the last number of years dealing with him, as I was secretary of agriculture for the State of California.

We had agreed about 3 weeks ago, when we were appearing in front of another committee talking about the same issue—he speculated that we should stop meeting like this. I reminded him of that today. He said that he has taken positive steps; asked what was

wrong with me. So I, too, feel a great sense of loss as Jack goes on to the rest of his life.

Well, I feel complimented to be asked to appear before you today to discuss food safety issues. The recent events, as you all know, including the media and various congressional activities have brought about nationwide focus once again to food safety. The attention, I believe, is largely negative, has led to the apparent breach of consumer confidence in safety of the U.S. food safety, and certainly we believe at USDA that the food safety in this great Nation of ours is as safe as anywhere in the world and probably much safer.

We think that the seeming popular opinion about our food safety that it may not be safe is certainly not supported by good science. Nonetheless, we believe that we must address in a positive way the public perception and work very hard to correct any misinformation that has been as a result of the hype in the media and other places.

It is ironic that the public's concern about agrichemicals culminates today when the safety of their use is emphasized more today than ever in the history of the world. I believe we do a credible job. And I think it is interesting to note that there is more concern under this very rigorous regulatory control than there ever has been in the history of this Nation. This concern may reflect on human nature, which I think is well stated by this old Byzantine proverb, which states: "He who has bread on the table may have many troubles; but he who lacks it has only one."

Scientific advancement has placed us in the precarious position of knowing what we may not know. We can detect chemicals now at levels which are multiples of fractions lower than we could detect even 10 years ago. Through improved technology, we have learned that some mainstay agrichemicals of the past are not entirely innocuous and have taken measures to control their use, and in some cases have even removed them from the market, and we at USDA support that when it is based in science. All of the pesticides currently on the market should be reviewed, and that review is under way at EPA. Because of the expansion in our knowledge and understanding of these kinds of issue, we believe that there should be a process put in place for the routine review of all agrichemicals on a timely basis. No agriculture chemical should be used if scientific evidence should ever suggest that it presents an unacceptable risk to consumers, and we take that part of our job seriously.

We feel strongly that food safety policy should be based on scientific facts and not emotion. We feel that if the policy is based on media or consumer pressure alone, it will be inconsistently, unfairly, and inappropriately applied. And we are committed to letting science be the guide, and I think we share that commitment with EPA and with FDA.

Risk assessment is a process of determining the potential problem that an agricultural chemical could present to society. It should be applied consistently throughout the Federal and State regulatory system, and the process used to develop a risk assessment should represent realistic risk to consumers, and not just theoretical risk. It is important that the regulatory system determine how safe is safe, and I guess that is the prime question here today.

Zero risk is not attainable now. It never has been. It should be possible, however, to define a process for risk assessment which is realistic and is based in scientific fact. The process should use data regarding residues and human exposure derived from testing throughout the United States. There is a lot that is going on that we simply don't know about. We need to find out about it and be able to record that, so that we can depend upon it. The use of toxicology data which reflects realistic usage, take into account the risk to the health of the public if we exclude a chemical from the market, and there are certain risks in excluding chemicals—a down-side risk brought about by not having the protection against naturally occurring nicrotoxins and that sort of thing.

We believe the public health is best served by this approach. We also believe that if pesticide use was eliminated or greatly reduced without practical alternatives that production losses would occur and that the cost of agricultural production and marketing would dramatically increase. This could translate into a decreased food availability and disproportionately high prices for consumers, and the increased food prices could severely affect lower economic status populations and could repress the economic well-being of the very individuals our Government works so hard to support.

In conclusion, I offer some solutions to the food safety dilemma facing us today, and these solutions have been as a result not totally—it hasn't been totally culminated in the final way but I would like to at least throw them out for ideas. It has been as a result of EPA, FDA, and ourselves, meeting together. And, of course, we need to improve communications. We need broad-based change in the food safety regulatory system. And I would like to focus just on a few key issues, if I may, as I conclude.

The proposed solution includes a broad-based look at our current food safety regulatory system. USDA, FDA, and EPA have acted independently in the past because our laws and traditions dictate different approaches, controls, and philosophies. We are currently working together to identify these issues which will require some change, and let me mention just a few of these issues, if I may.

We need to commit to developing a scientific data base for chemical residue which is consistent—if the analytical methodologies are consistent, we need to wrap around all of the residue sampling that is taking place out in the States and other areas; define functional negligible risk and consistent methods for assessing risk and establishing tolerances. We need to develop a way and a means of requiring a routine review of scientific data for agrichemicals in use; that is, a routine relook, so that we don't ever find ourselves again in the position of having to look at everything all at one time. We believe that we need to formalize information transfer between the agencies and be good at that—between FDA, EPA, and ourselves. In fact, to create a clearinghouse, in effect, so that we would be regular communicators on all issues. Commit to the use of a single data base for per-capita consumption data, which currently is not the case, and review the process for regulating food safety and define specific changes needed.

USDA is committed to the process of reviewing the current system and making the regulatory changes that are needed and requested, and we support a collaborative approach to problem solv-

ing and public communication, and certainly want to commit ourselves at USDA to be willing participants in that activity.

And I will be happy, when the time is appropriate, to take questions, Mr. Chairman.

[The prepared statement of Mr. Parnell appears at the conclusion of the hearing.]

Mr. BROWN. Thank you very much, Mr. Parnell.

I think we will let Dr. Moore present his statement and then we will question both of you.

Dr. Moore.

STATEMENT OF JOHN A. MOORE, ASSISTANT ADMINISTRATOR, PESTICIDES AND TOXIC SUBSTANCES, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. MOORE. Thank you, Mr. Chairman.

Food safety is probably the most important aspect of pesticide use, or continued pesticide use, in this country, particularly as viewed by the public. It is certainly, in my opinion, the crux of the reregistration process as embodied in FIFRA 1988. But, as important as FIFRA 1988 is—it is the essential first steps, I have said that before—it alone is not enough. I have also said that before. Alar, or the events associated with Alar I think, starkly underscores that there are additional needs that we need to focus on.

There need to be some additional changes in the FIFRA statute which deal with how the agency is able to come to grips in a timely and effective way with issues dealing with cancellation, once we have identified a problem chemical. There also need to be changes made in the Federal Food, Drug, and Cosmetic Act as it relates to pesticide residues. Certainly we have talked about that before, and there is legislation pending to try to address the issue of residues on foods.

Obviously, again the last act in the reregistration of all pesticides once you have a full data set is to sit there and say what impact should that have on existing food tolerances or the need for food tolerances where you hadn't had them in the past. It is the last logical thing to consider as it relates to the reregistration of an old pesticide. So we certainly have to consider that as a piece of the reregistration process that started under the FIFRA 1988 legislation.

Some aspects of the Alar controversy, I think, were clearly unique to Alar, but I think we can't lose sight of the fact that it is also the harbinger of events or issues that will play out over and over again as FIFRA 1988 data is received and reviewed by EPA. We are talking about hundreds of chemicals, hundreds of active ingredients. I don't think that EPA is well positioned to deal with these issues, as they come up, in a timely or effective manner. I think if the status quo was maintained, the result will be further erosion or at least the inability to rebuild some of the public confidence that was lost over the Alar controversy. I think that is an outcome, if my prophecy will prove to be correct, that neither you, EPA or U.S. agriculture can withstand.

What I am talking about is when you get new data as it relates to old pesticides there basically are four outcomes, to put it in a very simplistic set of terms:

One, you can look at the data and say either there are no problems or the problems are minor and you can fix them in the course of the normal way you do business. That probably constitutes 80 to 85 percent of all of the old pesticide reregistration process, if our reregistrations that have been going on for the last several years are a guide for the future.

You can also, on occasion, predict that you will find a chemical that is a big problem. Dinoseb, of a couple of years ago, might have been an example of a chemical where the new health data suggests you have got a major problem, and then you take immediate steps.

You also are going to find a chemical, or some uses of a chemical, that would suggest that you don't have a big, major problem demanding immediate attention but there are some significant problems that must be addressed, and typically those will be done by eliminating certain uses or maybe all uses in a cancellation process; and we have talked about the need to streamline the administrative hearing process to make that effective in real time.

We also might be able to do better jobs on the big problems by maybe having some clarity put into some of the suspension language. I have talked about those in the past, and I am sure you will hear about them from the agency in the future.

But there is still a difficulty that is involved in this process. The process that I have just described is almost an on/off switch. You either have—well, in essence, you have no middle ground. You either have full use of the chemical or we are talking about things where there is absolutely no use of the chemical. There seems to be nothing in between. I think that is vexing to the agency because on occasion, and with some frequency, we get some bad news data. The bad news data may not be conclusive for a variety of reasons, but the data is disconcerting.

What do we do in this off/on switch mode that we find we have to work into? If we say we will just maintain the status quo, the public doesn't feel it is well served. On the other hand, if we just reach for the switch and turn it all off, I think you can end up with chaotic practices as it relates to agriculture. It becomes a labor-intensive effort on the part of the agency to turn that switch off and there are people who are going to contest it. And, again, I don't think the public is going to feel that it is well served.

I think what is needed is some middle ground, some middle measure somewhere. My analogy might be a pesticide is like the starting player on a basketball team. Right now, that player either plays all the time or he is thrown out of the league—on/off. I think when you get some disconcerting data, which we inevitably are going to get in the process of reregistration, maybe we need a mechanism where you can bench the starter for some period of time until this disconcerting information is put into the proper perspective. It proves to be a major problem or, indeed, the problem goes away and therefore you return to business as usual. It will give you the time to sort it out, and it will possibly give the public the perception that indeed you are acting on their behalf, rather

than leaving them with their perception of risk while you are in the process of sorting it out.

I wish I had had that type of authority available to me in January vis-a-vis the Alar decisions. I didn't, so what did we do? We announced the start of that long process called cancellation. The public didn't feel it was well served. You said you got a problem. It is going to take you years to finally bring it to closure. I couldn't put it on the sideline, so what did I do? I asked the registrant—the owner of the basketball team, if you will—if he would bench the player. They declined to do so. I also suggested to the coach, the people who use the material, that they strongly consider maybe voluntarily holding it in abeyance while this thing worked itself out.

I would submit that I don't think a regulator should be put in the mode of having to go hat in hand to either the owner or the coach in order to get the work done. I also think that the public probably feels that that is an inappropriate role on the part of a regulator.

I only raise this because it is not unique. A number of people have been waiting for the Agency to come to grips with its proposed decision as it relates to that group of fungicides called the EBDC's. And indeed, because you are talking about a number of chemicals going over scores of crops—that is the magnitude of use of those chemicals—you probably are finding disconcerting data. You are probably finding that there are problems as it relates to at least some patterns of use, and all I have available to me is the on/off switch. And I think that is bringing in real time a new chemical on the horizon—not Alar, all right—in which we probably are ill-suited to be able to craft what might be the most appropriate course of action until you get the final data in on what might be some disconcerting practices. I can tell you that 6 months from now, 1 year from now, and 2 years from now there are going to be other chemicals. I just don't know which ones and which crops.

The last point I would like to raise which relates to food safety is that food safety, I think we all agree, and Jack Parnell mentioned it in his opening statement, is a decision process that is heavily dependent upon science, and we all assume that if we have the scientific process and scientific data available we will make better, or at least the best decisions that are possible under the set of circumstances. I certainly feel strongly that science has a very vital role to play. If I didn't, I guess I wouldn't have come to EPA. But at the same time, I think we have got to be careful that we don't either overkill the process or have overexpectations as it relates to the process.

I think you can have too much of a good thing. I don't believe you need to look for some type of a science review on every turn of the corner as some people are suggesting as the sequel to their perception of what happened with Alar. I think you need to be careful of bright lines. There are very few bright lines in science. It is pretty hard to draw this bright line and say that is it; all of a sudden it is safe, not safe, depending upon which side of the line that you are on.

The last point I would raise—and this is a point that I have expressed concern about last year when legislative changes to the

Federal Food, Drug and Cosmetic Act were introduced and again have stated it upon its reintroduction this year—science is dynamic. Our knowledge is constantly changing, so we can't be too restrictive. And, indeed, what appears to be the norm of today, and therefore that is what science says today, is going to be the fossil of tomorrow and we don't want to build some of these rather prescriptive descriptive approaches under the guise of science into a statute in an ironclad way because it is just guaranteeing that within a matter of some short period of time it is going to be the old way. I think that is what you have got in some respects as it relates to the Delaney clause, which is one of the things that we think need to be fixed based on what we know in 1989.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Moore appears at the conclusion of the hearing.]

Mr. BROWN. Thank you very much, Dr. Moore.

What I would like to do is go round the committee once, more or less observing the 5-minute rule, and then come back and have a second round, so that all the members will get a reasonable opportunity to ask questions in the event some of them might have to leave or something of that sort.

Mr. Parnell, you mentioned in your statement on the need for a single data base on nutrition data, and nutrition data is, of course, very important; food intake, the relationship between food intake and health, and so on. We have a situation in which several different agencies are involved in this kind of activity. Not just Agriculture, but Health and Human Services, Veterans' Administration, the military, and others. There are a number. And the question has arisen frequently as to whether or not we would be well served if we could better coordinate all of this data.

You suggest a single data base on nutrition. I think that would be a useful thing to have. I want to solicit your comments as to whether or not you think you can get that with the existing situation, or whether we might need to provide some encouragement for that.

Mr. PARNELL. Let me preface my statements by saying that we are meeting together, the various agencies are meeting together on a regular basis trying to discuss these issues and trying to come to some agreements as to how we could settle on these issues. We have within USDA our Food and Consumer Services Division which does each 10 years a complete analysis of what we think the U.S. diet is made up of and from time to time that, because of the frequency that we go through that process, is deemed to be not as timely as some would like, and so we have looked to other sources.

I think that there can be agreements. I wouldn't be presumptuous enough to tell you today, Mr. Chairman, that I am ready to divulge how we go about that, but I think that it is possible. I think it is going to take careful cooperation—continued careful cooperation—between FDA, USDA, and EPA to come to some agreements, but I think we are well along in that process.

Mr. BROWN. Well, we would like to help you here in the Congress. So once you get your feet on the ground, let us know and we will give you whatever help might be desirable from a legislative standpoint. I think it is very important; you have mentioned, Dr.

Moore, likewise, the need for better dietary exposure calculations. I honestly don't see how, with sporadic or 10-year-interval surveys or some of the other methodologies that we are using, that we can establish that common, relatively up-to-date data base that would be so helpful. Even in situations like Alar, it would have been helpful. The need for it comes up periodically in connection with things like whether or not we have a hunger problem in this country. We don't know. We don't have sufficient data to be able to establish that situation. But we know it is an important problem.

Now I happen to have been associated with efforts to do something about this for maybe 10 or 15 years, and I honestly can say we have made a great deal of improvement, and I would like to be able to say that.

All right. Mr. Roberts.

Mr. ROBERTS. Thank you, Mr. Chairman.

You mentioned nutrition monitoring, and my question will be to Mr. Parnell. USDA has also been a source of national pesticide use data, if you will. If my figures are accurate here, the last comprehensive assessment of pesticide use was in 1982, when 13 major field crops in some 33 States were surveyed.

Obviously, if we don't have what we consider to be a current pesticide use information data base, we really can't respond in a timely fashion to the food safety issues like Alar in apples. And we also need, I think obviously, some accurate data to make some rational decisions regarding endangered species and regarding the ground water problems that we are experiencing, and the EPA really can't determine the benefits of individual pesticides, whether Jack has his star sitting on the bench or on the playing field or in purgatory or on the 50-yard line.

A September 1988 report by the Resources for the Future stated that the Economic Research Service has one staff person, working full time on the collection of pesticide usage data, with an annual budget of less than several hundred thousand dollars. I know the members of this subcommittee, even the respected chairman of the Budget Committee, who is making a rare but privileged appearance to the once powerful subcommittee, would look kindly upon reasonable funding levels for this most important chore that we have to determine, or the chairman would as well. So, while he is interested in nutrition monitoring, I am interested in national pesticide use data so we really know what we are talking about.

My question is a very easy one; the answer is yes. Will there be greater attention paid to this vitally important responsibility? Could you report back to us? I know that you have a lot of duties and a lot of—as you say, we really haven't hit the ground running yet. But could you get back to us in regard to the status of that and what you think you would need? Because I think the subcommittee would be very positive about that.

Mr. PARNELL. I certainly would be happy to do that, Congressman Roberts. It is no secret that in California, my home State and the home State of the chairman and Mr. Panetta, we certainly have taken the issue of food safety seriously, and we think that in trying to come to grips with that very issue of knowing how much, where, when, how, why, all about the various applications of pesticides, there have been many approaches taken recently supported

by very major agricultural groups, Western growers and others, who have suggested that we need to get along the path of complete pesticide reporting.

Today, and historically, even though historically in USDA there has been some activity in that regard, it is really not a mandate. It is something that we do to try to gain some information as to the use of pesticides. But, realistically, if we are ever going to really get a handle, I think we may be obligated to give some serious thought to some of these kinds of corrections to see what it is we need to do in order to get a real good handle on what pesticides are being used, in what amounts, and we are going to need to know that for a variety of reasons.

You mentioned ground water. I would certainly mention, as we get into the regulatory schemes the assumption always seems to be that everything that is registered for a particular crop is, in fact, used on that crop. We know that not to be the case, but we don't have significant data so that it is scientifically or statistically valid to make our arguments in a poignant way.

So I think that we need to pay attention to that issue. We need to talk to the industry, and we need to discover what their wishes are and work cooperatively with them. And I certainly will get back to you. That was a long yes, but yes.

Mr. ROBERTS. I just don't want that one person to be so lonely down at the ERS when they go through this data base effort.

How are you progressing in regard to—I will call it a task force, if you will. We have talked about this. In regard to the EPA and the USDA and the FDA responding to some of the issues we must respond to with the problems that we have had, and could you reflect on the interaction, perhaps, that you hope to attain with these other agencies on food safety? Let us just take the Alar situation or the Chilean grape situation or the hormones in beef situation, whatever. Seems to me that the U.S. Government, if we are going to have any credibility on this, must have a faster reaction time, the proper homework, and a very definitive statement.

Would you care to comment on that in regard to the administration?

Mr. PARNELL. I think you are absolutely correct. We do need to speak with a common voice. We are working on that. We have had nothing since my arrival in Washington but the best of cooperation with EPA at the highest levels and FDA to try to put together a workable situation so that we can have quick answers. We are working within the Department to put together a group of what we are calling policy people, assistant secretaries from the various cross-cutting agencies.

Mr. ROBERTS. At that level, not below—at that level, at a top-gun level?

Mr. PARNELL. Exactly. At the Assistant Secretary level and above, and I'm going to be involved in that process level.

Mr. ROBERTS. On a continual basis, a consistent and predictable basis, so if Mr. Stenholm calls about hormones in beef, or, goodness knows, I'm not asking for anything, but if something happens in wheat and I call, we are talking to the same person?

Mr. PARNELL. When Mr. Stenholm calls, we would hope to have a very quick and appropriate and correct answer.

Mr. ROBERTS. I'm out of time, but I'll be back.

Mr. BROWN. All right.

Mr. Stenholm, since your name was mentioned, I'll call you next.

Mr. STENHOLM. It is my understanding that both of you have testified concerning the so-called Waxman-Kennedy food safety bill before another committee. Would you briefly summarize your analysis of that bill?

Mr. PARNELL. Jack.

Mr. MOORE. Congressman Stenholm, I would briefly characterize the bill by saying the issues it tries to address I think are the appropriate issues. They track very closely, in title at least, with the recommendations that came out of the National Academy report of several years ago. From that standpoint, I applaud it—the unification under one part of the statute, pesticide residues; going to a negligible risk approach is certainly a good thing.

However, the time lines that are built into it, the prescriptive nature of what one is required to do under that bill, make it almost totally unworkable. I concluded my testimony before Congressman Waxman by saying that while I certainly have been the one most vocal over the last several years for the need for changes in the Federal Food, Drug, and Cosmetic Act as relates to pesticide residues; I'd rather work under the status quo than have to administer the bill as written.

Mr. PARNELL. And I share those views. The negligible risk standard is too prescriptive. It would absolutely lead to the cancellation, in our judgment, of many, many of the pesticides, many of the tools that we currently use. Doing away with the Delaney clause is certainly the zero risk kind of idea, absolutely applaudable, and we do applaud that.

But we think how they define "negligible risk" is very problematic to us, ratchets down in a 6-year scenario, and just would absolutely make the cumulative effect of the application of pesticides intolerable unless they were to define more carefully what they were going to gauge that on or what the starting point was. Are we going to talk about hypothetical risks and talk about maximum allowable tolerances, or are we going to talk about dietary risk?

When you talk about risk, you still have to talk about the dose, and hope some time during this hearing we can talk about that, because I think residue analysis is a key part if we are ever going to come to grips with food safety and be able to articulate that in an effective way to the public who is sitting out there concerned because there are those who would like to use hypothetical risks as their arguing points and we simply do not have the data at this point to effectively argue against their arguments. I believe that we can if we just do a few things and crank in a few corrections, which Mr. Moore and others at EPA and FDA and I have had considerable conversations on.

Mr. STENHOLM. Dr. Moore, you state in your conclusion, "We feel there is a need to move past rhetoric and establish a substantive debate on the issues." That summarizes, I think, where we need to be headed with this issue.

You discuss in great detail your concerns surrounding the balancing of risks and benefits. There are those that want to eliminate

all of the risk, which you have stated is impossible. Can you help define what an acceptable risk may or may not be?

Mr. MOORE. I guess that is what I get paid for. Every time I do a special review, the final judgment is a value judgment as to where is that balance.

I think part of the problem that one has as it relates to the whole process is, clearly, some of the members of Mr. Waxman's subcommittee expressed distaste to the fact that we, indeed, were trying to equate risk, dietary risk, if you will, to some dollar benefit associated with the use of that material. They found that distasteful.

I think the reason we end up in that circumstance is, we come to some subjective judgment through a scientific process that says, "I think there may be a risk associated with this," and you then try to put it in mathematical terms so that you can do something with it.

On the benefit side, you kind of do a biological assessment as to, "Why is this pesticide used? Why is the pattern of its use what it is? What would happen if we were to change that?" and you form an opinion again. But in order to try to do something with it in very tangible terms, you again try to translate that opinion into some type of mathematical formula which typically comes out to an economic analysis, and so now you are trying to balance the economics of one in a million risk, or however you want to express it, against some dollar gain associated with that pesticide use, which, on the face of it, becomes a problem, particularly when some people perceive that the risk is being borne by party A and the benefit is accruing to party B.

I do think that there is probably some merit to some discussion associated with, if you are getting into the range of negligible risk or above negligible risk, you probably should start to focus on the benefits accruing to the person who is incurring the risk.

The example I use is, fungicides control fungal growth on a product maybe from the field to the market. Absent the use of fungicides, you may end up with some type of microbial growth which could pose health risks to the person consuming the product. So therefore the benefit in that circumstance accrues to the person who is consuming the product and assuming the risk along with the residue, as opposed to Alar, where the benefits are accrued by virtue of the fact that you have better storage capabilities or you have a lower percent of apple drop, particularly in the northeastern varieties. Benefits are very real, but they are not perceived as very closely held to the person who is consuming the apple. I am trying to draw the distinction, not necessarily pass the value judgment on the two.

Many people would find the fungicide example grudgingly acceptable. A lot of people would get off on the Alar example by saying, "I'm not sure I want to tolerate that one." I try to draw the contrast between the two.

Mr. STENHOLM. Thank you.

Mr. BROWN. Mr. Morrison.

Mr. MORRISON. I have spent a lot of time in the last few months on the subject of today's hearing, and I'm more convinced than ever that the way we avoid consumer reaction that we have seen,

particularly in the case of daminozide/Alar, that we need a relative risk scale. I know that is related to your negligible risk standard. I would love to see something come out of this food safety process that we are cranking through in this subcommittee, as are other subcommittees, that would give us some sort of a scale so that consumers could compare the risks of consuming a variety of different products treated in a variety of different ways. Am I completely off the wall on that? Is that part of the long-range plans?

Mr. PARNELL. From my vantage point—and let me speak to this in my way, and Jack may want to respond as well—I believe this, that FDA does a lot of residue sampling, admittedly maybe not enough, but the State of California does a lot of residue sampling, an extreme amount, the State of Ohio, I think the State of Florida, and I'm not absolutely certain but as we sat down and tried to envision a way we could wrap around all of the data that is currently available on residue data, we think that we could probably incorporate into a common repository of information the results of all of those various States and come up with a number that is statistically reliable; we hope that we can. We are absolutely not certain of that yet, but we think that we can go a longways.

It seems to me, rather than talk about relative risk in the terms that you have outlined, we might be better served by utilizing our talents and our energies to find out what is actually on the food in terms of dietary risk when we consume it, or just prior to consuming, or at the wholesale level, which is probably the optimum place, so that if we find something that is out of tolerance, that we can pull it off the marketplace.

But in doing that, I think what we will find, based on our experience, is that about 83 or 84 percent of all of the food that is consumed in America today has absolutely no detectable residue of anything whatsoever, and the balance of that has residue in minute amounts, not anywhere near maximum allowable tolerance, and then there is a very small piece that doesn't represent a dietary risk either, but it represents pesticide residue present that just simply isn't registered for that crop, an overspray, or a drift, or what-have-you.

But my belief is that our energy should be expended in the direction to bring consumer confidence back in collecting all of the information that is out there. There is a lot of work being done, and we simply don't know about it and have not coordinated it in an effective way so that we can use it as a tool.

So that is basically where I am coming from, and, Jack, you may have other thoughts.

Mr. MOORE. In anecdote, I might underscore what Jack is saying. In Alar, the apple industry amalgamated data that they had as far as surveillance of apples coming into processing plants for the presence of residue and then what was the level of residue.

The total aggregate of that data, as I recall, was somewhere around 13,000 or 15,000 samples over the last 18 or 20 months, which showed very low levels when you looked at the data. Consumers Union went out and sampled three dozen apples in a local supermarket, and guess which one was believed?

The point I am trying to make is, should Consumers Union be believed? Sure, they should be believed; their results were accurate.

But here were thousands and thousands of samples, far more reliable from the standpoint of the percent of the crop that might have been treated, that somehow got totally swamped out in the process, and we have got to find a mechanism to systematically share that information.

Jack is talking about collecting the information from California, and FDA, and maybe 8 or 10 other States, to end up with a number that is meaningful as it relates to the size of the Nation's food supply. You could also add into that, on a selective basis possibly, some sampling that has been done within the food industry as well to find out that, gee, it supports it or it contrasts it, and understand why.

Absent that data, you basically are in a "trust me" mode, and the public unease as it relates to pesticide residues in their diet doesn't necessarily make that a very ready sell.

One last point I would make on residues; 2 years ago, or 3 years ago, the fungicide Captan was in special review, and we waited for 2 years before we made the final decision—2½ years maybe, before we made the final decision on Captan. At the time we put it into special review and announced that we were going to cancel based on theoretical data that we had, theoretical calculations of risk, our informed judgment within the agency was, when we got real data, the risks will go away because the real residues will be quite low, and, in fact, the events proved out that when the data did become available, in the main, the residues fell below the negligible risk category once they were calculated, whereas, prior to that, you had risks that were one-hundred-fold higher based on partial or incomplete information.

I don't think we can be in the mode today, 1989—August 1989, say, or June 1989—taking a different chemical, taking the Captan of 1989, and proposing to do the same thing, I don't think the public will stand for it, which comes back to the need to have readily available good data.

Mr. MORRISON. Whatever we do, and I concur with your answer, the mechanism has to be there so the public accepts that. Otherwise, we have not reduced the potential for nutritional terrorism, which my industry and my own farm operation have gone through, and we did everything right.

I just saw the chairman walk in—Mr. Chairman—and I would like to publicly pay tribute to him because he has been part of the team that stood up to say American farmers are not at fault even though they will take the fall for the dilemma we have just gone through.

Thank you.

Mr. BROWN. Thank you, Mr. Morrison.

Mr. Chairman, we would be pleased to recognize you if you have a question at this point.

The CHAIRMAN. Thank you very much, Mr. Chairman.

I welcome our two witnesses and appreciate their cooperation with us and understanding. I don't want to intrude on the time of the other members, Mr. Chairman. Thank you very much.

Mr. BROWN. Thank you, Mr. Chairman.

Mr. Olin.

Mr. OLIN. Thank you, Mr. Chairman.

Dr. Moore, you made the statement during your comments along the lines that EPA is not prepared to respond to issues or the things that are impinging on you in a timely manner. In talking with Mr. Morrison, you mentioned one such aspect. Could you be more specific about other aspects that are apparently preventing the EPA from responding in a timely manner and the circumstances that you should be responding to.

Mr. MOORE. Yes. I think when we have a firm opinion that started to gel within the Agency that we think the risk outweighs the benefit of a pesticide and you want to move toward cancellation, I think the process that we must go through to conclude that a cancellation is measured in years, and the public doesn't feel that it is being served well, because the product continues to stay on the market during the pendency of the process.

We go through a proposal to, say, cancel the use of a pesticide; we get public notice and comment opportunity; USDA gets a chance, by statute, to comment on it; we have it peer reviewed by a group of scientists, as is required under the statute; and then, after we have had the benefit of all of that sage advice, we then make our final decision.

If that was the end of it, fine, other than seeking redress in the courts if you think that somehow your rights have been abridged. But the current process is that you can then ask for an administrative hearing, which will take an additional 2 or 3 years, and the product stays on the market. That is an example where you have got a definite idea in mind that the process doesn't serve the agency well in being able to appear to the public that, indeed, it is moving forward with due diligence and appropriate pace.

Mr. OLIN. You are not talking about lack of capacity to do it.

Mr. MORRISON. No. I'm talking about the——

Mr. OLIN. You are talking about the time it takes to run through the required procedure.

Mr. MORRISON. Yes. The maze that we have to run through to get to the finish line.

Mr. OLIN. This gets to my second question, which is the one you raised, this question of on/off. It is pretty obvious that when you have something you have approved for sale and purchase, you can't go half-way on that, you are either going to approve it or not approve it.

What are some of the options that you think you would like to have? Would you like to have the option, for example, of temporarily suspending the sale of, or the manufacture, temporarily suspending the use of chemicals, but not committing yourself as to the long-term answer, or are there other options that you feel would be helpful?

Mr. MOORE. I think it would be of value to the Agency, particularly as we go through this reregistration process involving several hundred active ingredients over the next 9 years, to have some type of an authority that is a temporary removal from the market.

It may not necessarily have to apply to all uses of an active ingredient. There may be certain uses on certain crops that, because of the pattern of use or the time of use that poses the problem, you might want to be able to say, "Hey, for those uses, I want to set aside the use of chemical *x* until we get the more definitive data."

The public, I think, then would sit there and feel that they were being reasonably well served while you sort out the issue.

Mr. OLIN. You still have to exercise an on/off decision. You had better say, "We are going to stop using it for that use."

Mr. MOORE. Yes. Benched for the moment, but clearly reserving final judgment until you have got the more definitive information in hand.

Mr. OLIN. You do not have that authority today.

Mr. MOORE. No. I either have the ability to cancel and go through a multiyear process, or if I think the problem is of such a magnitude that I can invoke a suspension activity.

Mr. OLIN. You say it is OK to use for all time or it is not OK to use for all time. You can't say, "Don't use it until I have finished my experiment?"

Mr. MOORE. I can ask that it not be used. That is what I did with Alar. If I had had that authority that we are talking about right now back in January, I believe I would have invoked it as it relates to Alar. I would have said that Alar is not going to be allowed to be used in the 1989 season until the final data which I have in hand right now, in preliminary fashion, which is very disconcerting to me, has had a chance to work its way out. I didn't have that ability, so what I did was announce the cancellation process, ask the registrant to consider withholding sales of the material, which, as was their right, they rejected, and I also took the unusual action to write to the apple industry and ask them to consider not using it voluntarily this year until the final act had played out.

Mr. OLIN. The next question is: Could you establish an adequate basis for making such a judgment that it would stand up in court as you get sued for damages?

Mr. MOORE. I think in the circumstance that I am describing where it is a temporary time out, so to speak, as to the use of the material, you have got to have language that would be somewhat deferential to the discretion of the Administrator, or else you will end up getting tied up in courts.

It is a difficult issue, but I think it is an issue that is going to continue to vex the agency and everybody else during this reregistration process. It would also cause problems in the future if you didn't have it, but the pace at which you are going to find issues that need to be resolved is being tightly compressed right now by this avalanche of information that is coming in.

Mr. OLIN. It sounds like you are raising a very legitimate concern that has got to be addressed.

Thank you.

Mr. BROWN. Mr. Grandy.

Mr. GRANDY. Thank you, Mr. Chairman.

Mr. Parnell, I was looking over the conclusions in your testimony, and I wanted to ask you something about the improved communications section. When you are talking about active participation from the private sector—medical doctors, registered dieticians, nurses, trade associations—are you talking about some kind of advisory panel that would counsel USDA and, I suppose, EPA on these matters, a sitting group, an advisory board, that would consult with the Department?

Mr. PARNELL. Advisory boards are useful from time to time. I haven't put a label on this. In fact, we are just in the process of trying to explore what should be done and how we should go about it. My thought is that the first step would be to surround the data that we have in terms of residues, which I have already spoken of, but then try to interpret what we think the results are, and in doing the interpretation, we would probably seek out and find credible science that would comment. Now we may choose to put an advisory board label on that; I just haven't gone that far in my thinking.

But I definitely believe that once the scientific community is sampled across the Nation and once they are given, in total, what the residue pictures look like, I think we basically would be able to tell a very convincing story relative to the safety of our food supply.

That is not to suggest, however, that some corrections do not need to be put in place, and Jack mentioned earlier in his testimony some very real issues that we are going to come to grips with, have to come to grips with.

Mr. GRANDY. To what extent do you—and I would direct this to you, too, Dr. Moore—do you consult with industry, particularly the agricultural chemical industry, in terms of what they are doing in developing compounds with reduced toxicity, with reduced vulnerability, to mammals and the container systems that those chemicals are delivered in?

Those of us that sit on this panel are occasionally invited out to explore some of these facilities, and one of the things that I find intriguing is, there seems to be a lack of communication between particularly USDA—and I won't comment on EPA because I am not as familiar with them—as to your understanding with what they are doing and their understanding with what you are doing in trying to come to a meeting of the minds on this problem.

Is there an attempt either through your individual agencies or together to penetrate the private sector, as per your discussion here, into the industry and see what solutions they might have that you could avail yourselves of?

Mr. PARNELL. As to USDA, there has not, to my knowledge, been an aggressive approach to reach out and wrap their arms around the public and the private sector to try to understand what it is they know. But you have to——

Mr. GRANDY. Could I just interrupt you there?

Mr. PARNELL. Surely.

Mr. GRANDY. Does that suggest then that all the research is being done in house, that the ARS or whatever agency within the Department is basically living in, I guess for want of a better term, a rarefied atmosphere of its own science?

Mr. PARNELL. I don't want to leave that impression. I think the ARS, I think the Extension Service through the university system's land grant university systems, are doing everything they can, and certainly we get input back. Quite often the vacuum is not in that area, and I think there is communication between the private sector to the university system, the university system back to us, and other researchers. Most of the research that we do is done out in the university system.

Mr. GRANDY. Is there a fear that if perhaps there was a closer relationship between the chemical industry, the deliverers of product, the manufacturers, the marketers of product, and the Government agency of oversight, there would be a conflict of interest there as a certain necessity to keep an arm's length relationship with this industry even though they are, through their private research, perhaps coming up with solutions that Government can use?

Mr. PARNELL. I think one might argue that you have to go about that certainly with an attitude of being aware of a potential appearance of a conflict.

Speaking back to my relationship with the department in California, we were a department that registered and enforced pesticides all in one, in other words, tantamount to EPA, FDA, and USDA together. So we had a regular dialog with the chemical companies out of necessity, and I have continued that as I have come to Washington, and I intend to continue that.

I don't think that there is a vacuum based on the fear, the appearance at this point, if that was the question. I believe that it is just a matter of, USDA is substantially where all of the effect of the other agencies lands. FDA, EPA, make their decisions, but the effects of those decisions largely happen among the constituency that we serve, and yet there is a very ill defined responsibility as it relates to USDA what it is we are supposed to be doing with regard to the application of pesticides or the monitoring of pesticides or gathering data as to the use of pesticides.

Mr. GRANDY. If I might ask you then, Dr. Moore, to respond to the same question, has EPA tapped into industry to at least voluntarily get them to reduce the toxicity in these compounds or see what available science they have that your agency might be able to use?

Mr. MOORE. I might just preface my answer by saying that, given that we regulate the industry that you are talking about, the appearance of conflict is much more real with EPA than maybe it is with USDA on that issue.

That notwithstanding, the agency, I think, has selectively sent signals to the industry as it relates to certain pesticide concerns that are vexing to them. Off the top of my head, I could cite several examples.

We identified several years ago our concern over fungicides as a class that, based on what data was available or what data was likely to come in, we could predict they would pose health risk problems and that, indeed, there would be an incentive there, hopefully, from our point of view that with current chemicals possibly being problematic over the long term. that might be a prudent place to invest R&D efforts for longer-term benefits.

When we identified ground water concerns and generically talked about those, we did it to the industry, and I think they listened.

The last area that immediately came to mind is that we have had problems with certain of the herbicides, particularly as it relates to avian toxicity out in the field, nontarget avian effects.

Mr. GRANDY. Are you talking about Furadan, for example?

Mr. MOORE. Furadan would be an example; Azodrin, which is now off the market, being another example. There are a number of those products that are very toxic to birds in their normal patterns of use.

Two things which we have talked to the industry about: First, how well are we doing in coming to grips with an accurate scientific means of assessing how many birds are at risk, how many birds are being killed or adversely affected? And the second thing is, all of these materials that are avian toxicants are primarily put on in a granular form, and is there something that could be done that could either change the attractiveness of the granule to the bird so that the bird doesn't preferentially go out, land in the field, and pick up a couple of pellets and do itself in? Are there changes in ways of application, changes in color, in shape, in form, that indeed might mitigate part of the problem? Those ideas, I think, we have raised in discussions through the trade associations of the chemical industry.

All that notwithstanding, an area that I think you shouldn't expect high returns in dialogs with industry and should look to other sources maybe for better pay-off would be when you talk about a problem area that might involve a chemical pesticide, for somebody to look to other solutions to the problem for which the pesticide is being applied to begin with, that might involve non-chemical alternatives.

If you talk to the chemical company and you say, "I've got a problem with pesticide *x*," they might try to design, and build, and sell pesticide *y* that is less toxic, and we do that, is what I am saying. On the other hand, if there are changes in practices, pattern of crop rotation, any one of a variety of things that might also mitigate the use of that problem pesticide, I think it is more appropriate to look to other sources of agricultural research for pay-off in that area than to expect to you are going to get a lot of response from the chemical industry.

Mr. GRANDY. My time has expired. I am going to ask another question in the next round.

Thank you, Mr. Chairman.

Mr. BROWN. Thank you, Mr. Grandy.

Mr. Panetta.

Mr. PANETTA. Thank you, Mr. Chairman.

First of all, to both Dr. Moore and Mr. Parnell, you have got a tough job in dealing with this issue, and I commend you for the time that you have put into it and the work that you both are doing to try to restore some sense of confidence in the American public on this issue.

But I guess that is my concern. My concern is whether we are going to be successful at restoring any sense of confidence in what is happening right now, because I look at the period of the next 6, 8, 12 months, and I see nothing but trouble. You are in a reregistration process that you have just talked about. Out of 600, how many have reregistered at this point?

Mr. MOORE. At best, a handful.

Mr. PANETTA. You have got literally hundreds that are out there that are going to have to go through the reregistration process. We are in a situation where, if any group using scientific evidence of

any kind indicates that there is a problem in any area, we have got trouble. The view of the public will be, if there is a question mark over it, regardless of who is reporting, what group it is, and whether or not it is anyone who has done this before, if there is a question mark over it, it is trouble.

I guess the question I have is, what steps do we immediately have to take to restore some credibility in the operation? Otherwise we are in for chaos. I don't see how we can stop it. The Alar situation is a good example. You have got a situation where the scientific community had a certain set of views, and there were others that said that is not the case. You raised a question mark in the public's mind. The public said, "To hell with this; we are not going to buy this stuff if that is the case." It doesn't take much. You can almost pinpoint any other pesticide that is out there, and come up with the same kind of concerns, and you will have a heck of a time rebutting it.

What do we do to answer that situation? What kind of sense of confidence can we restore to the American people if all we send out are a set of mixed messages because we don't have the resources to deal with this issue?

Mr. MOORE. Mr. Panetta, I will reiterate two points in response to your question. One, when the agency is firm in its opinion that it has got all it needs to move on a pesticide that poses a problem, that it have a mechanism available to it that it can effect its action in a very timely fashion. Currently, that doesn't exist, and that continues to foster the erosion of the public confidence. That is Alar in some respects.

In the other respect, what I am talking about is, when you have data—a 2-year rat study comes in and suggests that it might be causing tumors in that rat. The rest of the data hasn't come in yet, but it's coming because it is part of that reregistration process, but the time lines for delivery are different. So you have that one piece that says, "Oh, my God, this is a problem. What is the residue?" You don't have the information. "What percent of the crop treated?" "I don't know." So you start to be in a circumstance like that.

What do you do? Do you sit there and just kind of don't say anything and hope nobody asks you about it? Or is the prudent thing to do, as a public servant, to share that information that you have with the public? In my circumstance of the examples I was trying to give earlier, in a circumstance that I just described, I would say, if the agency had an ability to say, "This information is troubling to me; if it holds up, it could pose a public risk; I want to put this off the market for the next growing season while we get the right data in;" and if the right data then says, gee, it is a negligible risk or something like that, it comes back on the market. I don't have that right now, and I have got to be able to do that fast, because if I can't do it fast the public is going to sit there and say, "Oh, there goes EPA again."

Mr. PANETTA. That is exactly the concern.

I think the scientific advisory panel was, to some extent, designed to try to perform that role. My concern is that its own credibility has been subject to question, and I guess my question to you would be, Is that a legitimate concern? Is the panel the thing we

ought to turn to? Is that the vehicle we are trying to be able to move most of these issues through?

Mr. MOORE. I think the review of all of this data that is coming in that deals with health and safety is a scientifically oriented process, and I think it is imperative that there be some dispassionate expert scientists who review the agency's analysis and give them the benefit of their advice, either concurring in the agency's opinion, sharply dissenting with it on occasion, or giving some constructive suggestions.

I think we have got to be careful, and this is what has bothered me in the last few weeks, maybe again as a legacy of the Alar. Some people are suggesting that the quality of person that serves on EPA's Science Advisory Panel is less than stellar. I take sharp exception to that. I have known many of these people for years, before I ever came to EPA. They are some of the best scientists in the country.

What happens when you have got a good scientist who is truly knowledgeable about a pesticide, it should come as no surprise that company *x* wants to hire that scientist as a consultant to give them advice on some product that they are developing. There is no bar against that person serving on a science advisory panel, nor should there be. I think they should have to disclose these types of activities to the agency as a condition of appointment or sustained tenure on the committee, and certainly I would suggest that if they have been in the employ as a consultant on a particular chemical, or even any other chemical from that company that comes up in a very strong regulatory decisionmaking process, they should probably announce, "Gee, I happened to consult at one time to chemical company *x*, and so I am going to recuse myself from participating in this scientific dialog on that chemical."

If you don't allow those types of people to serve on the panel, you are going to end up with a second-rate panel, and that is not why you are seeking peer review to begin with.

Mr. PANETTA. My time has expired, but let me just say that there is a lot of talk about a new interest in the environment, and new environmental laws, and new this, and new that, and, very frankly, if we can't give you adequate resources to do the job that you are supposed to do right now under the laws that are in place right now, I don't know what the heck we are talking about, and I think that is part of the problem. Part of the problem is, it is easy for us to go in this direction or that, but if you are not getting the people out there to be able to do the reregistrations, to develop the scientific evidence, to develop the kind of credibility that is important, then, very frankly, we are never going to restore a sense of confidence with the American people.

Mr. MOORE. I agree.

Mr. BROWN. Thank you, Mr. Panetta.

Mr. Walsh.

Mr. WALSH. Thank you, Mr. Chairman.

Mr. Moore, on Alar, I was curious as to why Alar, of all the chemicals and pesticide and herbicides we use, was chosen for this recent media blitz. In my reading on the subject, I determined—and I am sure others have determined this also—that the NRDC charged back in 1983 that EPA had found enough information or

what they determined on their scientific studies that Alar was toxic and, indeed, carcinogenic, and NRDC then sued the EPA because of an alleged meeting of EPA with the manufacturer of this chemical. I guess that explained to me why this continuing battle over this chemical.

Would you care to comment on that meeting, that alleged meeting, and, also, do you think that that sort of a meeting is necessary? Mr. Grandy alluded to the fact that you might have to meet with industry from time to time.

Mr. MOORE. Congressman, my immediate recollection is that there was not a meeting as it related to Alar that upset some of the environmental community. During the early eighties, there were allegations—it was before my tenure at EPA—that there were meetings between industry and the agency that maybe went beyond the bounds of propriety and led to a lawsuit being filed and a consent decree coming out of that in which the agency defined what it would do as far as revising some old chemicals as well as establishing future practices for how and under what set of circumstances such dialog should occur between the agency and a chemical registrant. But I don't remember Alar being a specific cause célèbre associated with that period of time.

What did happen is that the agency looked at old data that had been developed not in response to the agency's demand but at universities and the National Cancer Institute in previous years, trying to see if Alar or the contaminant of Alar, UDMH, might be a carcinogen.

We looked at all of that data, saw that that data was flawed in each and every circumstance, but in the aggregate, despite the flaws in each experiment, our opinion was that it trended all the same way and was suitable for a decision to say that indeed it was a carcinogen and we proposed to move forward with the cancellation. This was back in 1985.

The peer review of our proposed decision drew the sharp dissent from the peer reviewers by saying that that data that you are trying to rely on is so flawed that it should not be used for decisionmaking. We then stopped our process and demanded that new studies be done. It is the interim result of those new current studies that led to us announcing in January of this year that that data was disconcerting based on interim results and we were going to restart the cancellation process.

The NRDC report that caught a fair amount of attention in this period of time identified that there are great risks to children as a consequence of being exposed to chemicals, and Alar was the chemical that they used that accounted for some 90 percent of all of the risks they calculated in their report.

My criticism of that report, or one of my criticisms of that report, is that they relied on the old data that the peer review that we had utilized suggested was inappropriate for its use.

Mr. WALSH. So it was the peer review that caused a change in EPA policy, not a presumed meeting with the manufacturer.

Mr. MOORE. Correct.

I would also submit that it was probably that event that led to some of the close scrutiny as to the qualifications and the outside activities of members who serve on SAP to be brought into ques-

tion, which gets back to the line of dialog that Congressman Panetta and I had a couple of minutes ago. They questioned whether or not these people were totally open minded as opposed to maybe possibly being co-opted by some of the industry. I put those together anyway.

Mr. WALSH. Thank you, Mr. Chairman.

Mr. BROWN. Mr. Volkmer.

Mr. VOLKMER. Thank you, Mr. Chairman.

Mr. Moore, in listening to some of the answers to the questions and reading your statement, it appears to me that you see in the future in the drive on reregistration a time problem, not necessarily a staffing problem but a time problem. You mentioned the problem with the administrative hearing. Are you intimating that perhaps we should review the necessity of having that administrative hearing?

Mr. MOORE. Yes, sir. I think we should have this notice and comment period called special review, which is where SAP has a chance to comment, USDA, and any interested party, as a prerequisite to our making a decision. Once we have made that decision, if somebody feels that our decision was wrong, I think they should go straight to the courts, just like they would in any other notice and comment rule making, and we should eliminate the administrative hearing process which is currently embodied in the statute.

Mr. VOLKMER. All right.

The other thing that I think I hear you saying is that you see as possibly a way to maybe help you in the process. If there is some evidence, preliminary evidence, that says that for some reason this is more toxic than it should be, you would like to have maybe a suspension rather than cancellation for a temporary period?

Mr. MOORE. Yes, sir. I have shied away from the word "suspension" because it is a buzz word in 1989.

Mr. VOLKMER. I know.

Mr. MOORE. But call it what you will; if it looks like a duck, quacks like a duck, I guess it is a suspension, but of a temporary nature, until the definitive data is in.

Mr. VOLKMER. Would you be willing to put any time limit on any type of period?

Mr. MOORE. I think that is appropriate. It certainly should have a fixed time limit to make sure——

Mr. VOLKMER. 6 months? 1 year? The growing season?

Mr. MOORE. My guess is, you are talking about at least 1 year and conceivably, under certain circumstances, you might be talking about 2 years if that is the length of time it would take due to crop cycles to pick up maybe the necessary residue data to find out what the level of residue is in the crop, but it certainly should not be open-ended.

Mr. VOLKMER. Thank you very much, Mr. Chairman.

Mr. BROWN. In order to conserve your time, I am going to take another 2 or 3 minutes and hope that one of the other members will come back, and I have asked them to come back and continue with the hearing for a few more minutes.

Both of you indicated a certain lack of enthusiasm about certain aspects of the Waxman bill, and we have discussed that before. We have also discussed whether or not we might have an administra-

tion position on an alternative to the Waxman bill, and I would like to ask each of you to comment, and you don't have to argue with each other but give me your best thinking about whether or not we might expect to have an administration bill that would rectify the problems that you see with the Waxman bill some time in the near future.

Mr. MOORE. Mr. Chairman, something that probably should have been restated in response to the earlier question. I guess Congressman Stenholm asked us to summarize our problems with the Waxman bill. One of the problems is, any time you make an attempt to correct something in the Federal Food, Drug, and Cosmetic Act as it relates to pesticide residues, you can't do it in a vacuum. There probably are necessary changes that also have to be made within the FIFRA statute to make sure that indeed they stay integrated with each other. That is a major criticism that I neglected to mention as it relates to the Waxman bill. It is totally silent on FIFRA, for reasons we probably could all reasonably speculate as being accurate.

But that notwithstanding, any change has to probably encompass changes in both statutes if only to be conforming with each other.

I think there has been active dialog within the agency and across the executive branch as to the specific fixes that might be needed in FIFRA, some of which have been alluded to in our discussions this afternoon, and more recently has also embarked upon some discussions as to what would be the changes that needed to be made in the Waxman bill, FFDCA, per se, in order to also comport with some of these FIFRA changes that we have been talking about.

Mr. BROWN. That didn't answer my question very well.

Mr. PARNELL. Mr. Chairman, let me attempt to answer your question. I like Jack's answer, however.

My impression: EPA, FDA, USDA, have been asked at the highest level to sit down and determine what are the corrections, if given the magic pencil, to do whatever we wish to do that is practical, that is prudent, to put down on a piece of paper those changes that should occur that we can all agree to, and we are in that process now. There has never been, in my understanding, a mandate from the administration, or even a suggestion, that we sit down and write a bill that will become an administration bill. They have merely said food safety is an issue, it is one of the goals of the Department to restore confidence in this food supply, and we have been asked to sit down and delineate in writing those corrections that we all think necessary. So that is where we are.

If I may, I wanted to take 1 more minute in response to Congressman Grandy's question earlier when he queried about our relationship with chemical companies and the internal research that is going on in USDA. I think I was certainly negligent when I didn't point out that many of the chemical companies that we talk to today are very much involved in biotechnology which could very well offer some alternatives. We are involved in our own experiments within the Department, going out through the Extension Service and through our agricultural science research people to the university system, very much involved in integrated pest management experimental activities, we are very much involved in biologi-

cal control, very much involved in all kinds of alternatives, including minimal use of pesticide. So that is ongoing.

Mr. BROWN. Hold that thought, Mr. Parnell, because I will pursue it when I get back, and Mr. Jontz will keep you entertained until then.

Mr. JONTZ [acting chairman]. Thank you, Mr. Chairman.

Mr. Parnell, I want to follow up on your comment. I am not sure what question you were answering because of my absence to cast a vote, but I have a question for you that relates to alternatives to pesticide use—biological controls, integrated pest management. In your statement, on page 2, you discuss risk management and define that as the process of weighing the risks associated with the use of a pesticide against other consequences. You point out that in the case of certain pesticides their elimination could compromise our ability to assure an adequate wholesome and affordable food supply.

So, as I understand the process of risk management, you would want to weigh the benefits and weigh the costs and make a decision about use on that basis.

What I want to ask you is this. How do you deal with the situation where you may find that the benefits outweigh the risks but that some alternatives may exist, that biological control methods may be available, that through a system of integrated pest management you could use considerably less chemical, that some alternatives exist whereby you could reduce the risk-to-benefit ratio, or increase the benefit-to-risk ratio, substantially, so that, in fact, you don't need to assume even the risks that would be involved with the use of the chemical? How do you take account of that sort of alternative within the process of risk management?

Mr. PARNELL. I think alternatives are always something that we look at, and we have to carefully look at, and make decisions about.

I suspect that when I view the issue of risk management—or we call it the cost/risk relationship—we always get, for some reason, focused on the risk to the consumer and the benefit to the people who grow the crop or the benefit to the chemical company who produced the product that is being applied, and we get bogged down in that scenario, and I don't think it is a valid scenario at all.

I think the risk/benefit balancing was intended to be used in the following way. That is, if, in fact, Mr. Moore has to sit down and consider whether or not the product Alar is to continue to be used on apples, he has to look at the risk very definitely that his preliminary data brought in and make a decision about that.

On the benefit side, I think he has to very carefully evaluate, if he does anything to affect the use of that product, what will that do to the apple grower, and how does that translate back to the consumer? Which is the real issue: Are apples going to be available, or are they not going to be available? And, if they are available, are they available at a higher price that would exclude some economic stratas of our population from buying apples?

I have heard technical people talk repeatedly about, the only thing worse than eating an apple with Alar on it would be to not eat an apple at all, and I think that becomes the question. The risk translates back to consumer: Is this food going to be plentiful? Is it

going to be cheap enough for our people to continue to do the things that they continue to buy the kinds of food products that they have historically bought?

Mr. JONTZ. But what if I came to you and said it isn't necessary to use this chemical or use it in this way because, through some alternative means of pest control, we could produce an affordable, plentiful product, and it isn't necessary to take on risks at this level because we can obtain comparable benefits for risks at this level? What does the law tell you to do at the present time in that circumstance?

Mr. PARNELL. The law doesn't tell me to do anything, because we are not in that business of risk/benefit balancing, he is, but I suspect——

Mr. JONTZ. What do you think the law should say in that regard?

Mr. PARNELL. I would defer to Mr. Moore. I would assume that it would be taken into account, but very carefully.

Mr. MOORE. Congressman, the way you were laying out your question originally as well as how you restated it just 1 minute ago is exactly what we do. If, indeed, there is a risk associated with a given product and then trying to look at the risk/benefit balance, one then looks at the benefits of that product's use. If you can find that there are alternative ways to achieve that benefit that exists without having to use the product that has the risk, the benefit part of the equation for that particular risky chemical goes way down, in our opinion, and so therefore, if there was an alternative practice that would achieve the same result, we would end up probably assigning very little benefit to the continued use of that pesticide and, on balance, would then probably move against taking that pesticide off the market for that particular use.

Mr. JONTZ. What specifically does the law charge you with so far as your responsibilities of investigating alternatives?

Mr. MOORE. I think the law is fairly vague in that as far as giving me any great direction.

Mr. JONTZ. Does the law say that you must look at biological alternatives?

Mr. MOORE. No. It basically says that you must reach a conclusion that the risks outweigh the benefits associated with the pesticide's use, and risk is defined as unreasonable risk to the environment, which includes man. It does very little, as I recall, in giving me any descriptive information as to how I will determine benefits associated with that use.

Mr. JONTZ. But how you define "unreasonable risk" is critical here.

Mr. MOORE. I believe "unreasonable" is undefined in the statute.

Mr. JONTZ. I'm sorry?

Mr. MOORE. I think "unreasonable" is undefined in the statute.

Mr. JONTZ. I guess the nature of my question is, how far does the law go, and how far should the law go, in requiring you to evaluate available or potentially available pest control technologies that are alternatives so that not only can you say that the benefits outweigh the risks but you can say that we are controlling the pests in such a way that the risk is minimal based on alternatives which may be available?

What you have said is that the law isn't——

Mr. MOORE. It is pretty ambiguous.

Mr. JONTZ. Should it be? Should it mandate consideration of biological controls, integrated pest management, and alternatives, and can Mr. Parnell give you all the information you need about that so that you understand what the alternatives are? Because I think that part of the public concern about the use of chemicals is the idea that alternatives exist which are not being used now and that Government hasn't been willing to force the use of them.

Mr. MOORE. If alternatives exist, presuming we are aware of them, whether it be a chemical alternative or a different practice being available, if we were aware of it, we would factor that into our decisionmaking process.

Mr. JONTZ. If you were aware of it, you would at the present time.

Mr. MOORE. Yes, sir.

Mr. PARNELL. Mr. Chairman, if I may, the premise of your question assumes that the other alternatives that are available to us would totally exclude the utilization of pesticides. That would have to be taken into consideration as well. Integrated pest management, for example, biological controls, for example, my experience has been that they work very, very well in the area of reducing the amount of pesticides necessary for use, and we pursue that vigorously. It certainly has not led us to believe that there can be an elimination as a result.

So somewhere in your question there is an ambiguity as to whether there is a complete alternative or a partial alternative and how that would be applied.

Mr. JONTZ. I appreciate that, and I think that when there is a partial alternative that ought to be investigated also. I appreciate your help in clarifying for me what the law does now require you to do.

I know that my colleague, Mr. Roberts, has additional questions, so I will call on him at this point, and the chairman of the subcommittee has returned. I will call on Mr. Roberts if he has additional questions.

Mr. ROBERTS. Thank you, Mr. Chairman.

I have a rambling rose kind of dissertation/question, Jack, that I would like to explore.

If we are going to err in regard to the job that we are about, it seems to me that we should and must err in behalf of public safety. I know that, and you know that, and hopefully most observers know that, and you have done that. I am not saying you have erred.

But in regard to your allegory here of the basketball team and the basketball coach and the players, we are going to suspend, if you will, or bench, or put on the sideline Alar, if you had had that kind of policy option, and perhaps Alar is not a good example. Perhaps Alar is an example of a basketball player—I hesitate to use any names, but Alar is not, say, Michael Jordan or Magic Johnson. Maybe Alar is David Rivers; he only went 1 for 5 before he finally connected last night—I guess no, 0 for 4.

But what happens if the product is Michael Jordan, and if we are going to suspend during the review process, like you did Captan, which is another player, a similar player, a fungicide, if you will—

and, if memory serves me correctly, you suspended it in 44 instances and then OK'd it for 24—and so, all of a sudden, Captan was not in the doghouse, he was not on the bench, he was not a bad actor, he had some level of forgiveness, if you will.

Then you move to, say, Aldicarb. Aldicarb was a player which there was a rumor about, and somebody in the EPA sent information to the press in regard to Aldicarb, and all of a sudden he was to be benched because of possible drug use, or maybe steroid use or something like that, only to find out that perhaps that was not the case. Nevertheless, the leading processor of potatoes up in Idaho said, "Whoa, we can't trust the process, and so I'm not going to accept any more product treated by Aldicarb."

I want to know how you get out of Purgatory. I want to know how, when you spring the trap door on a suspension process that you are asking for, what is it based on, given the fact that the producer of that crop, it's a little different, as opposed to FDA when the Commissioner says, "Here is a manufacturer of a product; we have deemed it unsafe for the consumer," and there isn't much else to that, except the poor manufacturer, who shouldn't be making it in the first place, I guess, and the consumer, who is denied that particular product.

But in agriculture it is a little different in regard to the producer and the manufacturer, the processor, et cetera, et cetera. If you deny him that Michael Jordan, if you will, the Carbifuran in regard to corn—some would even say back several years ago the EDB in regard to grain—what is that producer going to do? He goes out of business. You are right in the process now of EBDC's in regard to some fungicides. The spinach producers, if we make that determination, you have the policy that under—what do I want to call this? A risk based on what? A suspicion? A possibility as of down the road? Made so by what? The media? Several environmental groups? I am not sure.

If Captan made it back—I don't know if he will ever make it back. What does the spinach producer do? He goes out of business? What does the processor do? He quits. And we either import that product or it goes to another region of the country. A little different ball game, a little different circumstance.

I am troubled about the proof in regard to the suspension, which I hope would be based on accurate science, and, by the way, I applaud your statement in regard to the scientific advisory panel. I think sometimes some of our colleagues—none present on the subcommittee—want people to be celibate monks, sitting in front of a church with sack cloths and ashes, to make these determinations, not the real world. So I think you made a very fine statement.

Where are we now? What are you asking for in regard to a suspension policy tool? Based on what?

Mr. MOORE. What I had in mind was that you had real data in hand that said that, for example, the chemical may be a carcinogen, may cause birth defects, something of that nature. You mentioned the EBDC's. We are talking about here four or five different fungicides all in that category that are used on dozens and dozens of different crops.

In our looking at EBDC's, you might find a problem because there is data suggesting that the common breakdown product of all

of those EBDC, fungicides may be carcinogen. You look and say, well, what else is available for its use on kumquats? And you identify the fact that there are three or four other alternatives outside of the EBDC's for use on that product being used and posing less risk.

Wouldn't it make sense, if you have got a risk that is clearly above your negligible risk level based on incomplete data? And the incomplete data that I am talking about here usually is accurate exposure data. We just don't know how much is on the crop at the time the consumer is eating it.

So what I would suggest in that circumstance is, wouldn't it make sense to say, "Gee, let's take that EBDC and set it aside, given that you have got three or four other fungicides available during this one or two crop seasons, until you have got the definitive data." I think that one that I have in mind—and it is real in the EBDC's as we looked at the briefings—probably has a great deal of allure to it.

You describe a scenario whereby the circumstances are far more dire in that there is no alternative, and, in fact, if you were to take it off for a couple of years, you might put somebody at severe economic disadvantage or maybe even out of business, and would that be fair if, 2 years later, you found out, now, gee, when the data came in, it is OK.

Somehow we have got to find a mechanism that can be responsive to both the analogy I gave and the one you gave rather than try to lump them together because I would say your circumstance that you describe is clearly different than the ones that I know exist with a number of the EBDC's.

At the same time, I also know the analogy that you gave is appropriate to a particular crop as it relates to EBDC use. If we basically were to say, "Put these EBDC's on the sideline while we get the more definitive exposure data," that crop won't be grown probably as we know it during the pendency of that process. There is a crop that I am told comes close to fitting those criteria. It isn't that we have got four or five alternatives for that particular crop.

So EBDC's give us all of the problems that we are discussing.

Mr. ROBERTS. Then you are saying suspension as a tool if alternatives exist, as opposed to no alternatives.

I want a workable cancellation process. I think if it is a bad actor it ought to be on the sidelines, out of the playing field, off the court, outside the gym—whatever. But I worry about this suspension vehicle that you are asking for. We are going to catch heck again if, in fact, you have a fungicide that you deem worthy of suspension but you go ahead and allow it because there are no alternatives, as opposed to a fungicide where there are alternatives and you say, "OK, we will go ahead and ban it from a public safety standpoint." They are going to say, "Wait a minute; that's not fair either; I am just not going to eat spinach," or whatever it is.

Mr. MOORE. Congressman, my prediction is that when we go public sometime with where we are in our decisionmaking process with the EBDC's, if we identify a chemical or chemicals on a particular crop that is posing a level of risk that is disconcerting to us, even if we propose to do nothing while we wait for the data to come in, as opposed to propose to set it aside until the data comes

in, I can guarantee you what is going to happen. It is going to be identified with Alar, and the use of that crop is dead.

Mr. ROBERTS. You just said that before, but under your own definition of this new suspension policy and the public furor today, the business of getting Captan out of Purgatory to some degree of forgiveness doesn't exist.

Mr. MOORE. Well, no, I think it does—I think it would exist.

Mr. ROBERTS. How? You said in your earlier testimony today you don't have 2½ years. We are going to have 2½ months before some Senator introduces a bill to do away with the darn thing, whatever it is, whatever happens to catch the attention of "60 Minutes" or whatever, and I am not trying to perjure the concern on the part of those who are doing that. I worry about your suspension policy request giving more indecision or lack of consistency and predictability to agriculture, and I am not trying to pose agriculture in the position of saying they want to continue to use any product that is unsafe, for goodness' sake, but it is a different ball game.

Mr. MOORE. Congressman, I think the points you raise are legitimate; I don't question them at all. I think you might warm up to some of the things that I have been trying to articulate when you consider the alternative.

Mr. ROBERTS. Well, that is true. I don't want to go into a 4- to 8-year process where you are tied up by the litigating process and you can't move, and people say, "Wait a minute; if you think there is a danger, how come you are not moving?" which is what happened with Alar.

It seems to me that a workable cancellation process where if, in fact, it is a bad actor, based on whatever accurate science we can come up with, there is a better way to go, and I must admit I don't know how to speed up that review process to the satisfaction of all the critics.

Mr. MOORE. Congressman, you have mentioned spinach a couple of times in the last few minutes.

Mr. ROBERTS. I had a spinach salad this noon. Now don't alarm me.

Mr. MOORE. No. Did you have bacon on it? [Laughter.]

Mr. ROBERTS. Yes, and blue cheese, too.

Mr. MOORE. What do you think the outcome would be if the agency identified that, on a crop like spinach, we have concern about residues of fungicides but we don't have the definite data in yet as it relates to true residues on there, but what information we have suggests that it is above the negligible risk, and, by the way, we will have the more definitive data in 18 months or something like that, when the next crop cycle goes around?

I would predict that if that is what we did, the consumer reaction would be that there wouldn't be a whole lot of spinach bought in supermarkets. That is what I mean. When you consider the alternatives——

Mr. ROBERTS. Yes. That is what we had with apples, I understand that, and Popeye would not be a very popular fellow. But I just am saying let's look carefully at your request with the suspension policy. I can see some real problems with that, although we have to work it out.

I am sorry, Mr. Chairman, I went overtime on this, but I wanted to get at that particular issue.

Mr. BROWN. Thank you very much, Mr. Roberts.

When I left, Mr. Parnell, you were discussing the work the Department was doing in connection with integrated pest management and other nonchemical means of dealing with some of the problems that we have in agriculture, and, of course, we are aware and very supportive of these kinds of research activities. However, we are likewise aware of the fact that today the amount being spent by the Department on IPM is less than it was 6 years ago, and that is just in real dollars, not decreased for inflation. If you consider inflation, we are probably a quarter to a third less than we were 6 years ago.

Does that conform to your information, or am I making these numbers up, or my staff making them up?

Mr. PARNELL. I'm sorry, Mr. Chairman, I really don't have those numbers, and I haven't looked at those numbers.

Mr. BROWN. All right. What I am suggesting then is that we take a look at those numbers. It is all well and good to indicate the importance of these nonchemical alternatives, but unless we are actually conducting an aggressive program—and I don't perceive one in which we have had, we will say, a 25-percent decline over the last 6 years as being all that aggressive. IPM, biocontrol, cultural practices, all of these are important ways of reducing the use of chemicals. If we don't succeed in the overall goal of reducing chemicals in the environment, we are going to face the California phenomenon all over again—more proposition 65.

As an expert on California, can you tell me how you feel about the effectiveness of proposition 65 in terms of controlling the use of chemicals in the environment, particularly in agriculture?

Mr. PARNELL. Mr. Chairman, I thought you were the expert on California, and I was going to defer to you on that issue.

Proposition 65, obviously, is problematic. I have the dubious distinction of trying to implement what was largely an interpretative measure. So we tried to do that in the very best way we possibly could. In the hands of other people, it might have been interpreted somewhat differently than we currently have.

It is difficult to say. I tend to believe that there should be uniformity throughout the States on these kinds of issues.

I wanted to return, if I may, just briefly to the integrated pest management biological controls and those kinds of things. As you are aware, in the Central Valley of California we grow a lot of cotton, very good cotton, and we have reduced the need for chemicals in much of that cotton by about 75 percent as a result of utilizing some of the research that has been done over time in the control of the pink boller.

So it is being utilized, and your point is well taken. We need to continue to do more.

Mr. BROWN. Are you doing that with biological controls or with cultural practices?

Mr. PARNELL. We are doing that with the release of sterile flies at the moment.

Mr. BROWN. Sterile flies. Well, that is the sort of practice and research that I think the public is going to demand as an alternative,

and I am suggesting that in looking at your budget submissions in the forthcoming years that you see if there aren't some opportunities for additional research activities in that area.

We had some earlier discussion about the lack of data base in a number of areas—for example, on chemical applications. We probably have a lot more information about some of these things. I only mention chemical applications. The same thing is true in terms of nutrition monitoring, food intake, and so forth. But what we have lacked is a coordinated program for making this data available on a widespread basis to all of the users. If you put together the data that the States are collecting—California is an example—and what various agencies are collecting, you have one huge amount of data, and what we need to continually strive for is to make better utilization of that data, use it in a more timely fashion, make it available to more people.

I am not satisfied—and I am going to be pestering you probably as long as you are in your position—I am not satisfied with the progress that we are making in utilizing the resources that we already have, taking advantage of the data processing tools that we have to make the most effective use of all of this kind of information, and I think that it is vitally important that we do so.

In connection with the application of chemicals, for example, we need a reverse side of that, whether or not the use of those chemicals is actually producing improved results or whether they are merely encouraging a more resistant type of pesticide, and I can cite you a number of examples where the more chemicals you use, the hungrier the bugs get, and they seem to love those chemicals. That is the kind of a data bank that we need.

If we knew how much chemicals we were using and whether or not the bug population was actually going up or down as a result of that—in other words, the amount of resistance that was being developed—we would be able to manage our efforts a great deal better and probably use less chemicals.

Go ahead, if you wish to comment.

Mr. MOORE. One comment, Mr. Chairman, and that is that Jack Parnell had the benefit of pesticide usage data as far as which pesticide, at what rate, on what field, because of California law. I can't require that under FIFRA of an end user of a pesticide.

Mr. BROWN. Well, that ought to be in the menu of things that you would like to have some additional authority on, and I don't think you would find any problems with us here.

One additional point I would like to make has to do with this whole business of risk/benefit. I am deeply concerned that we don't seem to have any effective way of measuring benefits, and I would like to inquire if either of you have given thought to how we might do a better job of quantifying the benefits.

You spoke to that, Dr. Moore, when you mentioned the fact that, in the case of a fungicide, we might be able to determine the cost of the fungicide and then the benefits to the consumer, and that is what the consumer is going to be concerned about.

The problem of one person getting the cost and the other getting the benefit is not going to fly forever, you know. But technically speaking, we ought to be able to come up with some formula no worse than what we currently use for evaluating the additional

cancer risk, for example, which is a highly hypothetical process, for measuring the total benefits in the use of a chemical versus the total risk. This may involve quantifying what the cost of that additional cancer is, and we probably don't like to do that, and, in turn then, quantifying what the additional agricultural productivity is. We get a dollar figure in both cases, and we can begin to compare them. I haven't seen any such comparisons.

But somehow or other we have got to improve this whole process in order to help educate the public, which is, as all of you indicated at the beginning, one of the fundamental things we have to do if we are going to maintain the confidence of the public in the present agricultural system.

That is not a question, but if you wish to respond in any fashion, you may do so.

Mr. MOORE. Mr. Chairman, I think there is no question but what there are other factors that probably should be considered and possibly adopted or rejected based on their merits, as it relates to the benefit side of risk/benefit balance, and I think we might well be served.

I had not thought of it until you had pointed out in your statement that doing a better job of identifying how one goes about assessing benefits could also serve as part of the need to educate the public in this type of a process.

Mr. BROWN. We spent quite a bit of effort in figuring out what it costs our society for a lot of things—automobile accidents, for example. I don't see any particular theoretical harm in determining what it costs us for an additional cancer instance per million for the use of a particular chemical versus the benefits that that chemical might confer.

The benefits of driving an automobile 75 miles an hour while you are drunk sort of escape me, but apparently a lot of people think that it is very beneficial to do so.

Are there any other questions from members of the committee?

Mr. Morrison.

Mr. MORRISON. Mr. Chairman, thank you. I had really just one more and an expression of concern that maybe others mentioned while I was out.

Dr. Moore, you and I have talked before about, I guess at times we called it the silver bullet; you are proposing it today as some alternative to the off/on switch, and you have used appropriately some terms that relate to athletic contests.

I think probably Congressman Roberts and I both represent some high schools that only have five people in the whole school and they are all in the game, and I am referring to the minor use crops. I think I have got 70-some in my district that range from edible chrysanthemums for Japan, lentils, and a host of other things, and I guess I am a little worried the off/on switch doesn't have any allowance for how many folks you have got on the bench. In other words, you don't have any alternatives. That is a concern. I know it is a frustration for you.

But have you given any consideration in your off/on authority you would like to have to the weighing of what you use—sort of, you just lose the crop and consequently send somebody to Farmers Home for a low-interest loan?

Mr. MOORE. Congressman Morrison, I think circumstances which you describe, which Congressman Roberts also got into while you were out voting, are something that has to be addressed. I don't have the magic solution here to what you do in the circumstance you describe as opposed to an instance where there may be viable alternatives available which therefore would make it much easier to say, "You sit on the bench, and these alternatives are going to play for the next couple of years while we sort this out." Somehow we have got to try to accommodate both issues, but I don't have the ready made answer this afternoon.

Mr. BROWN. Would the gentleman yield briefly?

Mr. MORRISON. I would be glad to yield to my chairman.

Mr. BROWN. It seems to me you have here a case where you really need much better dietary exposure data, because if you calculate the dietary exposure to a chemical used on chrysanthemums and the number of people who eat chrysanthemums, the risk is likely to turn out to be fairly negligible, or the amount of chrysanthemums that they eat.

Mr. MORRISON. You would be surprised how many they eat, Mr. Chairman.

Mr. BROWN. But there are a number of situations of that sort, particularly in the minor-use field, where the chemical used needs to be measured against some much better information on dietary intake than we have at the present time. That is, of course, the kind of thing that we are urging.

Mr. MOORE. I don't know how much chrysanthemums are consumed as far as volume of material, but what does come to mind is, you may have a pesticide very important in the use of, for example, fumigating spices. That pesticide may leave a low-level residue, and let's assume that pesticide is a carcinogen. But when you factor in the amount of, say, pepper you would be consuming, the risk calculation becomes ridiculously low because you just don't consume enough pepper with that low-level residue to do anything about.

We somehow have to make a distinction between that and something that ends up with a 20-part per 1,000,000 residue on corn, or something of that sort, where it is very heavy in the diet and so, therefore, you might get a lot of exposure.

The other point the chairman was mentioning was, the vexing problem that we have is, for better or for worse, several years ago we might have got a jump on FIFRA 1988 and got the reregistration process started by getting people to commit to the health and safety data, the long-term, long-lead cancer studies, the birth defect studies, and things like that. As a consequence of that, that data is coming in in 1989, is coming in in 1990, well in advance of some of the residue data that we are talking about, and so what we are going to face is, "Gee, this chemical looks like it might cause birth defects. What do we know about the residue data?" "Nothing." "When will you get it?" "In 2 or 3 years." And that is what led me to think about, what do you do in a circumstance like that? I don't have the answer.

Mr. MORRISON. Mr. Chairman, thank you.

I concur totally with your comment, Mr. Chairman. Dr. Moore is saying it in a slightly different way. We need the data base from

which to reach the conclusion so we know when to blow the whistle and pull somebody out of the game.

Thank you.

Mr. BROWN. Mr. Roberts, may I recognize Mr. Jontz, since he filled in so nobly for both of us when we left?

Mr. ROBERTS. You certainly may, yes.

Mr. JONTZ. I thank the chairman, and I will keep my questions brief.

Dr. Moore, do I understand correctly that you believe that somewhere in the range of 30 to 40 food use chemicals are going to run into regulatory problems during the reregistration process?

Mr. MOORE. That is as good a number as any. It is not one or two, is the point I am trying to make, and it is not going to be hundreds, on the other hand.

Mr. JONTZ. And you have a pretty good idea of which ones those are.

Mr. MOORE. I don't necessarily have the knowledge as to which ones they are, but I do think we probably can have some indication that if we are talking about 300 food use active ingredients, say, 10 percent of them are going to suggest some type of a problem, which may go away once you get into detailed analysis. I think that is a reasonable number to work from.

Mr. JONTZ. But do you have some idea what the leading targets are in terms of which of the chemicals are likely to run into problems?

Mr. MOORE. The fungicides, as a total class, we have been saying for several years are going to be a problem based on either expert opinion or early information that is in hand, and we have been trying to systematically work through those fungicides, Captan being an example of one that we worked through and said once we got dietary data the level of risk is less than negligible, so we proposed to allow that use to continue. The EBDC's are also a group of fungicides that is now coming along the pike that we sit there and say we know there is carcinogen concern associated with that; we don't have the residue data in all instances. What do you do with those chemicals while you are getting the data? That is what it really comes down to.

Mr. JONTZ. And there are others that you can identify.

Mr. MOORE. Almost always, we don't have the adequate exposure data which gets into what level of residue, what proportion of the crop carries a residue. We typically don't have that information. When somebody comes in and says, "We've got this hot piece of data saying it might be some type of a human toxicant," that is the problem we are in; we are out of phase.

Mr. JONTZ. Well, I want to follow up that question to you, Dr. Moore, with a question to Mr. Parnell, and that is, Do you have the information from EPA about which chemicals they see as most likely to run into problems so that you can initiate the research that is necessary on alternative means of pest control? because if someone at EPA can identify the most likely chemicals that have a problem, it would seem to me, as expeditiously as that information could be relayed to you at USDA, you could begin or intensify the research on alternative means of pest control to replace those chemicals in the event that that became necessary.

What I am asking about is lag time which could occur if there is not the proper transfer of information. Is that information being received by USDA so that you can make the investment in research in the areas of highest priority?

Mr. PARNELL. It is my sense that it is. I can't speak to the communications prior to my coming on board, but certainly since I have arrived here communications between FDA, USDA, and EPA have been excellent, and we are very satisfied that we are getting information in a timely way.

I would hasten to make the point again, however, that, going back to the conversation that has just gone on with regard to the EBDC's and these very problematic active ingredients that are going to be relooked at, if we surrounded the data bank that currently exists that we don't use, I have had preliminary conversations with Dr. Moore, and while he can't conclusively say to me that would suffice to answer a lot of the questions that we are probably going to have in this process, I think he would agree that there is certainly a good potential for the information garnered out of finding out what everyone is doing and putting it in a repository so we could use it, and look at it, and feel it, touch it, and understand it. I think then he would have a very valuable tool, and it may relieve a tremendous amount of anxiety at EPA to have that kind of a tool to rely on.

When they are faced with the kinds of data that would come in that would suggest that they may have something problematic on their hands, that is basically garnered out of using hypothetical tolerance data. If we had real assessment from everything that is out there as to dietary exposure because of residue, actual residue, I think that that would give him a great tool to work with, and that is why we are moving very rapidly in that regard, and I think this is a winnable fight. I believe that we can convince the people that we are responsible. I believe that we can convince the people that we are doing a good job and restore confidence to the food supply.

Mr. BROWN. Mr. Roberts.

Mr. ROBERTS. Jack, I think the chairman inquired of you when we had our March hearing if, in fact, you had any suggestions in regard to cancellation language or a food safety bill, if you will, a speedier process, that he would certainly like for you to share it with us. I think probably Senator Dodd asked you the same question. Where is that? I hope it is not your suspension policy suggestion which I take very seriously and will be happy to work with you and your counterpart as he or she comes on board. But where is that legislation, or have you been able to come up with that yet?

Mr. MOORE. Congressman, my temporary suspension idea that we have talked about this afternoon represents Jack Moore's point of view, and it has not had extensive discussions within the agency, let alone across sister agencies. I think that should happen, and we will see what the outcome will bring.

As far as the other aspect of it, which is to eliminate the administrative hearing process as part of the cancellation procedure, and we have also talked about possibly reworking some of the suspension language in the more traditional sense than what I was talking about as far as a temporary suspension, and possibly talking about a sunsetting aspect to any pesticide registration, those things

have been actively discussed within the agency, have been actively discussed across agencies, with USDA, staff of the White House, as well as FDA, in concept, and we are now sharing specific language as to how one might move on the cancellation.

Mr. ROBERTS. Would it be appropriate for you to share those discussions with the committee of jurisdiction?

Mr. MOORE. Yes, sir. We can share with you what the nature of the discussions has been. I am not prepared to say that we can share with you language without checking.

Mr. ROBERTS. I am not sure I am asking for it as you have described it, but in terms of the discussion I think we would like to be a partner in that effort in that the chairman was quite concerned, as we all are, so we can get a better handle on this.

Thank you, Mr. Chairman.

Mr. BROWN. Actually, what he means is, I threatened to introduce a bill myself if we don't get some action here pretty soon. But we will hope for the best.

Gentlemen, we thank you very much. You have been very patient. We hope that we have been constructive in our questions and comments.

The subcommittee will be adjourned.

[Whereupon, at 4:24 p.m., the subcommittee was adjourned, subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

STATEMENT OF
JACK C. PARNELL
DEPUTY SECRETARY, U.S. DEPARTMENT OF AGRICULTURE
BEFORE THE SUBCOMMITTEE ON DEPARTMENT OPERATIONS,
RESEARCH AND FOREIGN AGRICULTURE
COMMITTEE ON AGRICULTURE
U.S. HOUSE OF REPRESENTATIVES
June 14, 1989

Mr. Chairman and Members of the Subcommittee, I welcome the opportunity to appear before you to discuss food safety issues. Recent events, including media and congressional activities, have brought nationwide focus on food safety. The attention is largely negative and has led to an apparent breach of consumer confidence in the safety of the U.S. food supply.

The U.S. food supply is the safest in the world. The public perception that the food supply is unsafe is not supported by the scientific data. Nonetheless, we must address the public perception and work to correct misinformation.

It is ironic that the public's concern about agrichemicals culminates today when the safety of their use is emphasized more than at any time in history. This concern may reflect human nature, which is well stated by this Old Byzantine Proverb, "He who has bread may have many troubles; He who lacks it has only one."

Scientific advancements have placed us in the precarious position of knowing what we may not know. We can detect chemicals now at levels which are multiples of fractions lower than what we could detect even ten years ago. Through improved technology, we have learned that some mainstay agrichemicals of the past are not entirely innocuous and have taken measures to control their usage. For example, a 1920 farmer wanting to prevent the Colorado potato beetle from ruining his crop went to the hardware store to buy lead arsenate which he carried home in a paper bag. There were no instructions for use on the bag, and no precautions to ensure the toxic chemical's proper use.

Today, only a certified farmer or custom applicator could be allowed to use a chemical similar to lead arsenate. Now, much less toxic chemicals come with explicit directions for use and precautionary information. Now, no pest control product may be sold for use except in its original sealed container.

The pesticides currently on the market should be reviewed. There should be a process in place for the routine review of registered agrichemicals. No agricultural chemical should be used if scientific evidence should ever suggest that it presents an unacceptable risk to consumers. The USDA serves both producers and consumers of agricultural products.

Let the Science Speak

We feel strongly that food safety policy should be based on scientific facts. If policy is based on under-informed media or consumer pressure alone, it will be inconsistently, unfairly, and inappropriately applied. We are committed to letting the science be the guide.

Risk Assessment

Risk assessment is the process of determining the potential problem that an agricultural chemical presents to society. It should be applied consistently throughout the Federal and State regulatory system. The process used to develop a risk assessment should represent realistic risk to consumers, not theoretical risk. The process should:

- o use data regarding residues and human exposure derived from testing,
- o use toxicology data which reflects realistic usage, and
- o take into account the risks to the health of the public by not using the compound in question.

It is important that the regulatory system determine an acceptable level of risk. "Zero risk" is not attainable. We believe that the public health is best served by this realistic approach.

While risk assessment is the scientific process for evaluating the risks associated with the use of a pesticide, risk management is the process of weighing those risks against other consequences. In the case of certain pesticides, their elimination could compromise our ability to assure an adequate, wholesome, and affordable food supply.

We must also begin the process of educating consumers about risk. Consumer confidence stems from understanding and we must move rapidly to communicate these difficult and complex issues to the public in an acceptable and understandable way. USDA has begun this task through its Extension Service network of professionals and contacts in each county across the country. In addition, the USDA agencies with food safety regulatory responsibilities, including the Food Safety and Inspection Service (FSIS), the Animal and Plant Health Inspection Service (APHIS), and the Agricultural Marketing Service (AMS), provide communication and education to consumers regarding risk.

Chemical versus Microbiological Contamination

The public has been most concerned recently about chemical contaminants in the food supply. However, the scientific community agrees that microbiological contamination represents a greater relative risk to health than does agrichemical use. The risk from bacteria in foods presents a more immediate, definable, and realistic problem for consumers, and ironically, is one that is more readily preventable.

Bacteria can not be eliminated from the food supply. It is not possible to produce a sterile food supply, nor is this required in order to be safe from foodborne disease. We are, however, continually pushing the technology to bring us closer to a safer food supply. For example, USDA is looking more closely at animal production practices which may improve the ability to control bacteria on raw foods. USDA is also aggressively pursuing control of infectious diseases in animals which are transmissible to man, called zoonoses. USDA will continue this attack on bacteria, but it should be noted that foodborne illness is in most cases preventable by proper food handling in processing plants, in restaurants and institutions, and in the home.

Consumer education about microbiological control is a ripe issue for coordinated Federal and State approaches. The consumer does not perceive the bounds of respective regulatory authority dictated by Federal and State laws. USDA is committed to educate consumers on proper ways to handle and prepare food safely. USDA pledges to work with other government agencies to make public communication and education programs about safe food handling more effective.

Food Safety and International Trade

The food supply available to American consumers is comprised of both domestically and internationally produced products. Our food and other nations' food is the result of multilateral trade. This trade is, in a large part, responsible for the variety of seasonal produce available to the American consumer and to the strength of the American economy.

Last February, the U.S. introduced discussions at the General Agreement on Tariffs and Trade (GATT) on three key trade issues for agricultural products. One issue was the harmonization of health and sanitary regulations for plant and animal products. Discussions are proceeding on this proposal, which depends on three international standard-setting organizations which use scientific data in developing codes for the production and manufacture of plant and animal products.

For food, this organization is the Codex Alimentarius Commission (Codex). The Codex has 135 member countries who participate in reviews of scientific information and the formulation of production codes for the safe manufacture of foods. In their almost three decade history, the Codex has drafted and adopted codes for the production of virtually all foods in international trade. The basis for decision making is science. The parallel organization for animal health issues is the International Office of Epizootics (OIE) and for plant health is the International Plant Protection Convention (IPPC). The OIE's and IPPC's roles are to control the spread of animal disease and plant disease, respectively. The OIE is also concerned about those zoonotic diseases which can be transmitted to man.

The harmonization proposal would depend on multilateral acceptance of the safe practices as dictated by the Codex, the OIE, and the IPPC. Trade disputes would be settled by the GATT in accordance with the accepted codes of these international standard-setting bodies.

The success of the harmonization proposal would be a tremendous step toward providing the citizens of the world with consistent assurance that their domestic and imported food supply met internationally agreed to safety standards. Harmonization would also facilitate the inspection efforts of trading countries to meet each others standards. Harmonization for approvals for use of agricultural chemicals would be an enormous benefit to consumer confidence in all countries. We need for the harmonization proposal, now being negotiated in the Uruguay Round of the GATT, to be successful.

USDA's Responsibilities for Food Safety

USDA believes the American people deserve safe food that is affordable. USDA's responsibilities for providing safe food include: (1) regulatory authority, (2) education and communication, and (3) research.

Regulatory authority

FSIS ensures that the meat and poultry products consumed in this country are safe, wholesome, unadulterated, and are properly labeled. This regulatory authority includes slaughter and processing operations for domestic and imported products. There are rigorous monitoring and surveillance programs for microbiological and chemical contamination, as well as for economic or other adulteration. The FSIS also maintains a prior label approval requirement for all meat and poultry products, meaning that every product on the market carries a label that is truthful and not misleading.

APHIS maintains programs which safeguard the health of domestic and imported animals and plants. They also control the spread of zoonotic diseases which may be transmitted from infected animals to man.

The agency conducts control or eradication programs for pests, including the boll weevil, golden nematode, Medfly, and gypsy moth; and monitors pesticide residues on crops under USDA pest control programs. APHIS also conducts programs for infectious animal diseases, including brucellosis and tuberculosis.

In addition, APHIS monitors a wide variety of potential plant pests and animal diseases that may activate eradication programs, conducts animal and plant quarantine, and animal health diagnostic test approval programs. APHIS participates in cooperative programs with the Food and Drug Administration (FDA) and USDA's FSIS, including a program for traceback of animals who are brought to slaughter with violative animal drug residues. APHIS also participates in the joint control program for the bacteria Salmonella enteritidis with FDA, USDA's AMS, and FSIS.

AMS routinely inspects the processing of liquid, dried, and frozen egg products; and also does periodic inspections of shell egg producers. The agency conducts microbiological and chemical tests on egg products. AMS also monitors the safety of edible nuts and cooperates with the States by evaluating their on-the-farm inspections for the wholesomeness of milk, based on USDA regulations which are recommended for State adoption.

The Federal Grain Inspection Service (FGIS) inspects grain products for specified contaminants and notifies FDA when shipments occur which may require action by FDA.

Both AMS and FGIS are involved in inspections and certifications for major food purchases by the Federal Government, including procurements for domestic and military feeding programs.

Education programs

Food safety education is a strength of USDA. Education is the dedicated mission of USDA's Extension Service and is also a function of FSIS, AMS, and APHIS. The Extension Service is a network of professionals who are faculty members of land-grant universities, and a grass roots system for information transfer which includes every county in the nation. This network carries information on: (1) safe food handling and preparation; (2) proper agricultural production practices for animals and plants, including safe animal drug use and pesticide application; (3) the food safety regulatory system; and (4) the concepts and potential applications for bioengineering in agricultural production. The network distributes information from other USDA agencies, including the FSIS, AMS, and APHIS, as well as non-USDA agencies such as the FDA and the Environmental Protection Agency (EPA).

The food distribution system is another target for educational activities. The USDA's Office of Transportation (OT) disseminates information regarding the safe transportation of food products, particularly perishables.

Research

USDA also has an active research arm through the Agricultural Research Service (ARS) and the Cooperative State Research Service (CSRS). These agencies administer and conduct fundamental and applied research regarding animal and plant production and food processing techniques. The CSRS also coordinates basic and applied research projects between the States and Federal Government. These research programs are working toward solutions for the food safety problems of today and tomorrow.

Programs for the Reduction of Pesticide Usage

Pesticide use has contributed significantly to the quality, abundance, and affordability of U.S. agricultural products. Our farm production system is moving toward reduced usage of these agrichemicals for a variety of reasons, including consumer concern about widespread chemical use, potential real health problems, environmental issues, and cost. USDA supports this evolution to reduced dependence on agrichemicals through programs including Integrated Pest Management (IPM) and other practices designed to maintain crop yields with less pesticide input. USDA is also involved in exploring applications for biotechnology that will result in reduced pesticide usage.

Integrated pest management

IPM is an approach to protecting crops and livestock from pests with the goal of optimizing environmental, economic, and social impacts. Implementation of IPM has resulted in many examples of significant reductions in pesticide use.

IPM is a strategy which substitutes technical information (for example, about plant production, weather, and pest life cycles) for sole reliance on chemical treatments. IPM is in contrast to the "calendar spray schedule." The so-called calendar spray schedule technique relies on sets of pesticides to be sprayed on crops in a sequence dependent on the crop's growth. IPM programs use pesticides, but in a limited manner, based on specific needs determined through biological monitoring of the crop, pests, weather, economic situation with respect to potential crop loss, and the availability of other options. IPM depends on information as insurance against crop loss. Calendar spray programs depend only on pesticides. IPM programs have been successful for food crops, including peanuts, pecans, tree fruit, corn, grapes, potatoes, sugarcane, broccoli, dry beans, and sugarbeets.

The technological tools used in IPM programs include a complex mix of information. Examples of these tools include crop and livestock varieties resistant to pests, beneficial biological control organisms (e.g., bacteria), automated monitoring devices, insect pheromones, disruption of pest life cycles with mechanical or chemical methods, and computer technologies to manage information and decision making.

A key to making IPM programs work is the people involved. The vital information network includes Extension Service staff, and USDA and State Experiment Station researchers. The success of IPM requires that the research and outreach systems continue to provide technical support.

Other USDA activities

USDA is developing other programs designed to help farmers substitute good management, scientific information, and on-farm resources for some of the traditional inputs (e.g., agrichemicals). Potential techniques include crop rotations, crop and livestock diversification, soil and water conservation practices, mechanical cultivations, and biological pest controls. Systems could be designed to respond to the American farmers' and consumers' needs for environmentally-benign and cost-effective agriculture.

Biotechnology

Biotechnology applications offer great potential for reduced pesticide and animal drug use, but are currently in the experimental and developmental stages. Programs are being conducted by USDA's ARS, CSRS, and APHIS. Animals which are the results of bioengineering must be approved for slaughter by FSIS before they may be used as human food.

ARS has several ongoing projects for the identification of genes which control specific desirable traits, including pest and disease resistance, cold hardiness, and drought tolerance. The success of these research projects may mean that our food supply will become more nutritious, of higher quality, and consistently abundant and affordable in years to come. In 1984, ARS opened a Plant Gene Expression Center in Albany, California for the purpose of pursuing biotechnology research. ARS also strengthened biotechnology research capabilities at their Beltsville, Maryland facility and has opened a new molecular biology research center.

Success stories of biotechnology research include: (1) the development of a new diagnostic probe capable of detecting at least 35 distinct plant diseases; (2) vigorous, pathogen-free, disease-resistant peach trees raised from tissue culture; and (3) bioengineering through the transplantation of foreign genes into walnut embryos.

Conclusion

In conclusion, we believe that there needs to be improved communications with the public. We also support addressing some key food safety issues, including increased coordination between Federal and State regulatory agencies.

Improved communications

We can do a better, more coordinated job of communicating food safety information to consumers, both in the U.S. and for our trading partners. Communication should include a three-pronged strategy.

First, Federal agencies with food safety responsibilities should participate in a coordinated response team when food safety issues become media events. The Federal Government must speak with a unified voice on food safety issues so that we can offer the truth in a comprehensible manner.

Second, we must develop coordinated education programs on food safety issues including risk assessment. Complex issues must be clearly communicated to the public, beginning with elementary schools and through to consumer awareness campaigns targeted for the elderly. Again, the information must be consistent for all government food safety agencies.

Third, we need to recruit the active participation of our private sector, including members of professional organizations (medical doctors, registered dieticians, and nurses) and trade associations. These individuals can be valuable communicators of our consistent food safety message. Many groups are already participants in this role, but we should improve on our coordinated abilities.

Key issues

USDA believes that we need a broad-based look at our current food safety regulatory system. USDA, FDA, and EPA have acted independently in some cases because our laws or traditions dictate different approaches, controls, and philosophies. We are currently working together to identify those issues which require addressing.

Some of the issues that USDA believes should be addressed include:

- developing better monitoring data by better coordinating Federal and State monitoring systems;
- defining negligible risk;
- developing of a process for routinely requiring re-registration of pesticides, such as including a sunset provision;

- improving information transfer between agencies and developing a "clearing house for food safety" within agencies;

- considering the use of an up-to-date single database for per capita consumption data.

USDA is committed to the process of reviewing the current system and making regulatory changes where needed and requested. We support a collaborative approach to problem solving and public communication, and are willing participants.

I will be happy to respond to questions.

STATEMENT OF
JOHN A. MOORE
ASSISTANT ADMINISTRATOR
FOR PESTICIDES AND TOXIC SUBSTANCES
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH,
AND FOREIGN AGRICULTURE
OF THE
COMMITTEE ON AGRICULTURE
U.S. HOUSE OF REPRESENTATIVES

June 14, 1989

INTRODUCTION

Recently, a number of questions have been raised concerning the safety of the food supply in the United States. Many people question how well EPA assesses the risks posed by pesticides used on food, and whether the decisions reached by the Agency are adequate to protect consumers who are exposed to pesticide-treated food.

Let me restate our firm belief that food which contains pesticide residues resulting from the legal use of pesticide products is generally safe. In fact, the food supply in the United States is among the safest in the world. EPA uses a sophisticated and protective process to evaluate the risks posed by pesticides in the diet. Our process follows the approach to risk assessment recommended by the National Academy of Sciences, and it has been copied by foreign governments and international bodies throughout the world.

While the Agency believes it has done a good job in protecting the American food supply, we realize that we have not been fully successful in communicating this confidence to the general public. Inadequate risk communication often leads to public concern and fear. It is this concern which EPA must address.

What information would actually help people get past confusion and fear about these issues? First, I think we have to provide a context for this issue: we do not live in a risk-free world, so it is not reasonable to expect absolute safety. Most people understand that our technological society involves trade-offs between benefits and risks -- that manufacturing industries, for example, may cause pollution problems, but also provide economic benefits. Pesticides used in agricultural production also have risks as well as benefits. It should come as little surprise that pesticides -- most of which are, by design, toxic to weeds, insects, microbes, or other pests -- may pose risks to other living organisms. But people seem to have lost sight of the fact that pesticides are produced and used because they are socially beneficial. They are useful for example because they eliminate, or at least control, insects that eat our crops, microorganisms that cause disease, or weeds that reduce agricultural yields.

Second, we need to de-mystify what the government does in regulating food safety. By this, I certainly do not mean that we

need to give the public a course in toxicology. But I do believe the quality of public debate about food safety would benefit considerably if it were more widely understood that risk assessment is not an exact science, although it provides a useful tool to characterize potential risks to the public. However, such projections based on animal studies are not accurate predictions of actual cases of human disease. Moreover, the government uses this tool in a very protective manner as we are more likely to overestimate risks because the assumptions used are intended to err on the side of safety to ensure public health protection.

An informed public can better understand and participate in the regulatory process, and they have a defense against sensationalism and manipulation. The American public deserves a better set of options when confronted by health and safety concerns than indifference or panic. In my view, that means it is worth a substantial effort to let people know what we do and how we do it. This needs to be done, not to make the system look better, but rather, because informing the public accurately and truthfully about risks is in itself an essential part of protecting public health.

Today, I will describe EPA's tolerance setting process. In particular, I want to explain the special steps EPA takes to protect children. I will then outline how the Agency does its risk

assessments, how these assessments are utilized, and what the Agency is doing to improve the risk assessment process. I would also like to discuss briefly the complement to the risk side of the equation: benefit analysis. And finally, I would like to leave you with an impression of what EPA believes should be contained in any legislation introduced to deal with the issue of food safety.

THE PESTICIDE TOLERANCE SETTING PROCESS

EPA requires registrants to submit extensive data to obtain a registration for a new food use pesticide and to establish any necessary tolerances (the legal maximum residue that may remain on food). Altogether, EPA requires up to 69 different studies -- many of which require the use of different animal species, so that the actual number of tests could exceed 100 -- at a cost that could exceed $10 million. By the time EPA is ready to authorize a new pesticide to be used on food, the Agency knows a great deal about that pesticide.

EPA's basic approach to evaluating risk is conservative and protective of public health. There are four components of the risk assessment process: hazard identification, exposure assessment, dose response assessment, and risk characterization.

HAZARD IDENTIFICATION

The objective of hazard identification is to assess the nature of the health effect (is the chemical an eye irritant, an acute system poison, a teratogen, a carcinogen). As with any area of scientific analysis, the method used is of utmost importance in risk assessment. The first step is to review and analyze all available data, such as laboratory studies, clinical reports and epidemiologic studies. These are most often animal studies of short and varying duration, in vitro studies, or analyses of structure-activity relationships. The Agency then makes a "weight of the evidence" judgment on whether the observed toxic effects are likely to occur in an exposed human population.

EXPOSURE ASSESSMENT

In pesticide risk assessment, toxicological characteristics make up only half the picture. The other component is exposure assessment. To assess exposure, the Agency must estimate the number of people who will be exposed, as well as the magnitude, duration, and timing of the exposures. To make these determinations, EPA generally utilizes information obtained from direct monitoring or from exposure models. Even after the Agency has determined the most likely route of exposure, we must often consider lesser (yet recognized) routes. EPA is refining its

methods of estimating exposures and securing more extensive data on particular compounds.

DOSE-RESPONSE ASSESSMENT

The Agency then characterizes the relationship between exposure level and the occurrence of adverse effects. This process is referred to as the dose-response assessment. As with hazard identification, most dose-response relationships are estimated from animal studies. These relationships are generally derived by extrapolating animal studies to humans and exposures at high doses in animals to low doses in humans. For most toxic endpoints, a No Observed Effect Level (NOEL) is determined and an uncertainty factor is applied to determine the reference dose for minimal human risk. The uncertainty factor is intended to allow an extra margin of safety to compensate for (1) the scientific uncertainty inherent in the process of extrapolating human risk projections from animal data, and (2) the possibility of differing sensitivities to the pesticide in individuals or subgroups among the general human population. The magnitude of this factor may vary depending on the toxicological effects observed in laboratory animals, and the amount of toxicity data available, but EPA usually establishes the acceptable level for human exposure at a point at least 100 times lower than the lowest No Observed Effect Level, thereby providing an even greater margin of safety for other toxic effects.

When considering a tolerance for a carcinogen, EPA aims to develop plausible upper bound limits on risk for varying exposures. This differs from the use of an "uncertainty factor" which implies a threshold for the effect. EPA also uses dietary exposure estimates, based on residue data and food consumption data, which are unlikely to be exceeded. What this process is capable of providing is a conservative estimate of the average risk encountered by the complete American population as well as average risk encountered by various demographic subgroups.

RISK CHARACTERIZATION

Risk characterization involves an integration of the three components which I have mentioned previously. The Agency seeks to express a risk qualitatively and/or quantitatively, and to give some perspective to the risk by summarizing the strengths and weaknesses of the supporting data and assumptions. Through risk characterization, the Agency is able to determine areas where additional data may be necessary or where regulatory action may be warranted.

In evaluating risks for carcinogenic pesticides, the Agency's policy, in general, is that tolerances for carcinogenic pesticides will be established if either the lifetime dietary risk is negligible or where EPA judges the risks to be outweighed by the

benefits of the pesticide to society. Traditionally, EPA and other federal agencies consider risk that is on the order of one in a million or less to be negligible.

Finally, regardless of the type of risks which may be associated with a pesticide, EPA sets tolerances at a level no higher than necessary to accommodate residues resulting from proper use, even if a higher level would not pose a health risk. If proper use would pose unreasonable dietary risks, the Agency generally would not set tolerances at all.

PROTECTING CHILDREN

In setting new tolerances and reviewing existing tolerances, EPA is concerned about protecting children. EPA understands that some subpopulations -- especially infants and children -- receive significantly higher than average exposure from certain foods. To guard against possible problems from such higher exposures, EPA routinely calculates and considers both a composite lifetime exposure for an average individual, as well as exposure values for over 20 subpopulations with potentially higher exposures -- including infants and children. Thus, EPA's analysis of pesticides in the diet takes into account that children and infants typically eat more food in relation to their body weight, and more of certain types of food, than the average adult. Using these exposure

estimates, EPA evaluates average lifetime risk, as well as the risk for subpopulations with higher exposures. Generally, EPA bases its tolerance decisions on the composite average lifetime risk which includes the proportionately greater exposure that occurs in childhood. The calculations for other subpopulations allow us to ensure that no particular group receives exposure which is likely to cause unreasonable risks. This sophisticated approach, which allows us to account for subpopulations, is the result of improvements in the process which have been implemented over the past several years. We will continue to apply this approach systematically to the reevaluation of old chemicals during the implementation of the FIFRA '88 Amendments.

EPA is also concerned about the possibility that children and infants may be more sensitive (than are adults) to the toxic effects of pesticide residues in their diets. Scientific data to resolve this uncertainty are limited and inconclusive. Although EPA believes its approach to tolerance setting adequately protects the young, the Agency has contracted with the National Academy of Sciences (Academy) to study this issue and make recommendations on whether changes are needed in the Agency's risk assessment process.

The Academy study, begun in 1988, is examining the methods employed to assess risk posed by pesticides in the diet of infants and children. In discussing this study, the Academy said: "this

study derives from the general consensus in the scientific community that new methods may be available to improve risk assessment methods and better protect the public health. It is important to note, however, that this study does not arise from the documented increase in any disease or adverse health condition in infants, children, or adults resulting from exposure to legal levels of pesticides in the diet." We expect to receive the final report of this study in 1990.

IMPROVEMENTS IN RISK ASSESSMENT

Even though EPA believes our general risk assessment methodology is sound and our tolerance setting system is protective of public health, our system is not perfect. Over the years, as we have recognized aspects that need improvement, we have taken steps to strengthen the process. Examples of such activity include: commissioning a National Academy of Sciences study on the regulation of carcinogenic pesticides ("the Delaney Paradox") which recommended a "negligible risk" approach to setting tolerances, and the Academy report mentioned earlier on risk issues for children and infants (begun in 1988 and due in 1990).

We have also refined our ability to estimate dietary exposure. Not only are we now requiring production of data and using existing data on exposure to pesticide residue in food when it is sold, but

we also have better ways of estimating dietary exposure to different subgroups in the population. EPA has recently developed and implemented the Tolerance Assessment System (TAS), a computer model and data base which calculates dietary exposure of different subgroups -- including infants and children -- based on a survey of their food consumption patterns. We have plans to make this valuable tool even more useful by integrating into TAS the most recent data from the Department of Agriculture on national eating patterns.

The Agency also is revising its testing requirements for pesticides to include more extensive testing for effects on the nervous system. In october 1987, a subpanel of our FIFRA Scientific Advisory Panel met to review the Agency's plan to adopt the guidelines developed under the Toxic Substances Control Act for the assessment of neurotoxic effects resulting from exposure to pesticides. The subpanel generally endorsed the adoption of these guidelines and recommended routine testing of pesticides for observation of neurologic signs, motor activity and neuropathology. We also plan to test certain classes of chemicals for developmental neurotoxic effects: animals exposed in utero will be tested following their birth for behavioral changes and neuropathology. Most of these tests can be readily incorporated into the standard toxicity testing currently required for all pesticides. The Agency is currently working on revising these neurotoxicity guidelines

BENEFITS ASSESSMENT

My testimony, thus far, has focused on the risks associated with pesticides. EPA also examines the benefits accruing from a pesticide's use. A benefits assessment is conducted as part of the Agency's Special Review process and at other times in the evaluation of a pesticide.

At EPA, a benefits assessment follows published guidelines which layout a logical step-by-step process for considering both biological and economic factors. Biological information is obtained from sources such as: literature searches, internal Office of Pesticide Programs databases, scientists involved in pesticide efficacy studies and experts familiar with the chemical attributes of relevant pesticide products. In compiling economic impact information, EPA inspects a variety of sources including: federal and state agencies' data bases on agricultural production, proprietary survey data regarding pesticide use, and information from industry, trade associations, and grower groups.

In conducting the biological analysis, the Agency first characterizes the pesticide's use, such as the sites to which it is applied, the principal pests controlled through its use (e.g., insects, weeds, rodents) and how the pesticide is used (frequency, timing, and application rates). EPA also gathers biological

information on the availability, comparative efficacy, and risks of both chemical and non-chemical alternatives, and the geographic distribution of pest species. Using this information EPA tries to evaluate the biological impacts of regulatory action. For example, in the case of an agricultural use pesticide, the Agency would assess the impact of cancelation on crop yields and commodity quality. EPA would also examine the impact of restrictions on application methods where alternatives to cancellation are feasible, or other risk reduction measures.

The next step of a benefits assessment is to express the biological impacts in economic terms. EPA normally evaluates several types of economic impacts. For example, EPA examines whether the use of alternatives to the pesticide, identified in the biological analysis, will change the production costs of agricultural and non-agricultural goods and services. In addition, the Agency examines the impact of any change in product costs on different groups in the economy including suppliers, processors, distributors, and consumers. EPA considers how these impacts vary by region and at the local level by considering the potential movement of economic activity to other areas of the country or to foreign markets.

BALANCING RISKS AND BENEFITS

Once the detailed risk and benefit analyses are available, EPA must weigh the extent of the risk and the benefits conferred by the use of the pesticide. There is no magic formula for finding the proper balance between risks and benefits, nor should there be. It is evident that decision makers must take into account the strengths and weaknesses of the particular risk and the benefits analyses when deciding which regulatory decision is best. I believe there are simply too many variables involved and the results too important to reduce risk/benefit analysis to a formula. EPA has been applying this approach of balancing risks and benefits in its regulation, under FIFRA, of pesticide sale and use. We employ the best scientific and economic analysis available. We explain our decisions publicly and respond fully to all public comment. Our final actions are subject to careful scrutiny by the federal courts as well as Congress and other interested public organizations. We believe that the balancing of risks and benefits is sound public policy and that in our implementation of FIFRA we are fulfilling our mandate to protect public health and the environment.

NEW FOOD SAFETY LEGISLATION

In closing, I want to describe two paramount concerns that, in my view, must be satisfactorily addressed in any new food safety legislation. First, there must be consistency and compatibility between the two statutes under which EPA regulates pesticides -- FIFRA and the Federal Food, Drug, and Cosmetic Act (FFDCA). Under FIFRA, EPA regulates the sale and use of pesticides through a program that requires the pre-market approval of a license (registration) for the pesticide. EPA is responsible under the FFDCA for setting tolerances (maximum permissible residue levels) for pesticides in or on food and feed commodities.

EPA simply cannot perform its duty effectively and responsibly if the statutes it must apply are incompatible or inconsistent. It is essential, therefore, that FFDCA and FIFRA both work together so that EPA can run an effective and efficient regulatory program. This concern exists not only with regard to the standards governing regulatory decisions, but also for the procedures and deadlines under the two laws.

There is one aspect of the current FIFRA that is particularly in need of legislative improvement -- the statutory procedures by which EPA can remove a pesticide from the marketplace. I fully expect that as reregistration accelerates, EPA will identify more

pesticides which pose significant risks, and I believe the public demands a streamlining of the regulatory process to allow the Agency to deal more efficiently with such problem pesticides. As many members of Congress are aware, I have repeatedly stated the need for changes in the law to allow us to get a pesticide off the market more quickly and easily once a problem has been identified.

Second, it is vital any new food safety legislation recognize that a regulatory Agency must be provided a degree of flexibility to carry out the broad mandates of the statutes it implements. This flexibility is particularly important when regulation is based on scientific areas in which knowledge is constantly expanding and old truisms are frequently challenged as happens so often with pesticides. A lack of flexibility could make it difficult, if not impossible in some instances, for EPA to comply with the law's demands or to reach sensible regulatory results.

CONCLUSION

EPA recognizes the importance of food safety to the American public. We feel there is a need to move past rhetoric and establish a substantive debate on the issues I have discussed today. The Agency looks forward to working with all interested parties in insuring the continued safety of the U.S. food supply and increasing the public awareness in this area.

○